LIBRARY OF
SCHOOL OF EDUCATION
BOSTON UNIVERSITY

# THE ELEMENTARY SCHOOL JOURNAL

VOLUME XXIX MAY 1929 NUMBER 9

## Educational News and Editorial Comment

### COMPULSORY EDUCATION

The Bureau of Education has issued the following summary of Bulletin No. 20 for 1928 entitled *Laws Relating to Compulsory Education.*

Education is now not only free and public but compulsory in all continental United States and in its principal outlying parts. Just when and where the idea of compulsory education originated are not known; however, the notion of making education compulsory existed in Germany at the time of the Reformation.

According to Bureau of Education Bulletin No. 20, 1928, the first state to enact a compulsory-education law was Massachusetts, in 1852. Since that date each state and the District of Columbia have adopted laws requiring attendance at school; the last state to adopt such a law was Mississippi, in 1918.

The average minimum age for compulsory attendance is 7.36. In twenty-eight states, including the District of Columbia, the minimum age is seven; in eighteen states it is eight; in two states it is six; and in one state, Oregon, the minimum age is nine.

There is also variance in the maximum age for compulsory education. Thirty-one states require attendance until sixteen; five states, until seventeen; five states, until eighteen; two states, until fifteen; and six states, until fourteen.

The average maximum age for compulsory regular school attendance is

sixteen, and the average number of years of attendance required is 8.65. Only one state, Ohio, requires twelve years of regular school attendance.

The average minimum term of required attendance annually is 7.23 months, although the length of term varies from thirty-eight weeks in Connecticut to three months in Oklahoma; only one state, Alabama, has no minimum school term.

Part-time, continuation, or evening-school education is also compulsory under varying conditions in thirty-one states for certain persons over fourteen years of age. Compulsory attendance in schools of this character depends upon age, amount of education, necessity for employment during regular school hours for a competence, and the maintenance of such schools within reasonable distance.

The minimum amount of education necessary to exempt children of compulsory-education age from school attendance varies; four states—New York, Nebraska, Nevada, and Ohio—require completion of a four-year high-school course; thirty-nine states require completion of an elementary-school course; and six states do not specify the amount necessary.

Attendance at school through the fifth grade is the average required throughout the United States for labor permits under present laws. Seventeen states require eighth-grade education for labor permits, while eight states require ability to read and write only, and seven other states appear to have no educational requirements. The ages at which labor permits are granted vary under certain conditions from twelve to fourteen; the most usual is fourteen. Laws which require an eighth-grade education for labor permits appear to be operating satisfactorily.

The tendencies noted with regard to compulsory education are: (1) to lengthen the period of compulsory attendance by making it effective at an earlier and to a later age; (2) to increase the annual required school attendance; (3) to extend the compulsory provisions to include various handicapped children; also to provide parental schools for delinquents; (4) to require more education for exemption and for labor permits; (5) to require public relief for indigent children and subject them more to the attendance law.

## JUVENILE-COURT LAW

The National Probation Association, Inc., 370 Seventh Avenue, New York City, has prepared a new statute defining the functions and powers of the juvenile court. School officers should be interested in helping to secure the adoption of this new statute by state legislatures. The Association has issued the following statement.

A revised standard juvenile-court law has just been issued by the Committee on Standard Juvenile Court Laws of the National Probation Association. The proposed law is being submitted to state legislatures with the recommenda-

tion that it be adopted or that present legislation be improved and strengthened. Members of the committee who drafted the law include Judge Franklin Chase Hoyt, of the Children's Court of New York; Judge Mary M. Bartelme, of the Juvenile Court of Chicago; Judge Frederick P. Cabot, of the Juvenile Court of Boston; Judge Charles W. Hoffman, of the Domestic Relations Court of Cincinnati; Judge Henry S. Hulbert, of the Juvenile Court of Detroit; Judge James Hoge Ricks, of the Juvenile and Domestic Relations Court, Richmond; Judge Edward F. Waite, of the District Court of Minneapolis; Miriam Van Waters, referee of the Juvenile Court of Los Angeles; Bernard Flexner, attorney at law, of New York City; and Charles L. Chute, general secretary of the National Probation Association.

The purpose of the act is to secure for each child under its jurisdiction the care, guidance, and control, if possible in his own home, which will best promote his welfare or, if the child must be removed from his own family, will secure for him the custody, care, and discipline as nearly as possible equivalent to that which should have been given him by his parents.

The court is given exclusive jurisdiction over all children up to eighteen years of age who have committed any offense or who are neglected or are without proper parental care. It is also given jurisdiction to deal with parents or other adults who commit offenses against children or who neglect to provide for them. It is pointed out that already nineteen states have adopted the eighteenth year as the age limit for the juvenile-court jurisdiction of delinquent boys, and twenty-six states, this same age for delinquent girls. In twenty-five states, Hawaii, and the District of Columbia, the juvenile-court jurisdiction once acquired may continue until the child is twenty-one. In thirty states, the District of Columbia, Hawaii, Porto Rico, and eight Canadian provinces, the court is given jurisdiction to deal with adults charged with contributing to the delinquency, neglect, or dependency of children.

The act enables the court to deal with the child and his condition instead of merely with the particular circumstance which resulted in his being brought to court. It dispenses with grand juries and indictments; with formal arraignments and pleas of guilty or not guilty; with the strict rules of evidence applicable in criminal trials, developed through generations to safeguard accused persons from tyranny but often operating to obstruct a court endeavoring to find how best to befriend and constructively benefit a child; with public trials and juries; with criminal convictions, sentences, and penalties. "The juvenile court," states an explanatory note, "must deal with persons and situations, not with separate acts. In order to do this intelligently and justly, it must have power to dispense with technicalities, consider social evidence, get the whole truth in a common-sense way, and save the family from publicity that may be destructive to their self-respect. Instead of punishment for the sake of punishment, it would substitute social treatment."

It provides for the creation of a juvenile court in each county. The court may be called the juvenile and domestic relations or family court if desired as

it is given complete jurisdiction over all cases relating to family relations except divorce. It provides for the appointment by the governor of a judge for a term of ten years in each county of the state containing a population of 100,000. In all other counties the county board must on petition submit to the voters the question whether or not they shall have a special judge of the juvenile court. In the meantime, the judge of some existing court is to exercise the juvenile-court jurisdiction. "The salary," according to an explanatory note, "will vary in different states, but it should be adequate to secure the services, full time wherever necessary, of men and women of training and experience."

The appointment of probation officers and other employees is stated in these words: "The judge of the court in each county shall appoint a chief probation officer and as many probation officers and other employees as shall be necessary." To eliminate political appointments of unqualified people, the law states that "probation officers who are to receive salaries, and other employees so far as practicable, shall be appointed from eligible lists secured through competitive examination."

No child under eighteen years of age, under this law, shall be placed in, or committed to, a prison, jail, or lock-up, nor brought into a police station or any other place where he will come in contact with adults convicted of crime or under arrest and charged with crime.

The pamphlet containing the new law contains many helpful explanatory notes made by the National Probation Association. The Association asserts that in many places juvenile-court work is regarded as trivial and that this underestimate has been encouraged by assignment of the function to inferior courts too often presided over by inferior men. It also maintains that the county is, on the whole, the best unit for juvenile-court jurisdiction and that the best results will be obtained by the creation, when public sentiment will support it, of a special state probation commission or a state probation department, whose duty it is to encourage and guide in the development of juvenile courts.

### ARITHMETIC AND REASONING

Professor Walter S. Monroe has published as Bulletin No. 44 of the Bureau of Educational Research of the College of Education of the University of Illinois a report of an important study in arithmetic. The title of the bulletin is *How Pupils Solve Problems in Arithmetic.*

The following paragraphs from the bulletin indicate the method and conclusions of the study.

In another place, the author has described the general process of solving verbal problems in arithmetic as follows:

"Meanings are connected with words and symbols; the implied question concerning a functional relationship is identified and answered; denominate number facts are recalled; numbers are read and copied. However, the response

cannot be adequately described by enumerating the responses to such elements. Reflective thinking is involved. It should be noted that the total response to a verbal problem includes the determination of the calculations to be performed plus the response to the example formulated. Reflective thinking is involved in only the first phase of the total response."

Elementary-school teachers and other observers of the performances of pupils in the field of arithmetic probably would criticize this statement by pointing out that it describes how pupils should solve problems rather than how they do solve them. It is the purpose of this study to answer certain questions relating to the actual procedure that pupils follow in solving problems in arithmetic. . . . .

A series of tests were devised which made possible a comparison of responses of pupils to certain types of statements of the same problem. A statement of a problem was considered abstract if there was no reference to the activity in which it occurred. If this activity was indicated in the statement, it was called concrete. The terminology of a problem was considered technical when the terms used were those that are commonly employed by specialists in a particular field. The terminology was considered to be simple when it consisted of words and phrases in general use. A third modification in the statement of a problem was secured by introducing irrelevant data. . . . .

Although the data of this investigation are not entirely consistent, they appear to substantiate the conclusion that a large percentage of seventh-grade pupils do not reason in attempting to solve arithmetic problems. Relatively few pupils follow the plan described [in the second paragraph quoted]. Instead, many of them appear to perform almost random calculations upon the numbers given. When they do solve a problem correctly, the response seems to be determined largely by habit. If the problem is stated in the terminology with which they are familiar and if there are no irrelevant data, their response is likely to be correct. On the other hand, if the problem is expressed in unfamiliar terminology, or if it is a "new" one, relatively few pupils appear to attempt to reason. They either do not attempt to solve it or else give an incorrect solution.

## SOCIAL STUDIES IN ST. PAUL

The school system of St. Paul, Minnesota, has a curriculum of social studies which extends throughout the elementary grades. The outline of this curriculum is published in a pamphlet entitled *Introduction to Course of Study in Social Science, Grades 1 to 9*. Perhaps the parts of this pamphlet which are most generally useful to schools other than those in St. Paul are the concluding sections, which are as follows:

### ACTIVITIES

There are many sources from which material may be obtained—new histories, civics, and geographies are full of suggestions, as are current professional

magazines. The activities in the body of this course are suggestive only. This provides a desirable elasticity to meet the various needs through the initiative of pupils and teacher. It is expected that the teacher will provide increasingly for the newer methods of teaching the social studies in the junior high school, which include such pupil activities as these:

1. Excursions and imaginary journeys—map-reading and place location.
2. Dramatizations, impersonations, pageantry.
3. Construction, handwork, maps, graphs, posters, relief maps, models.
4. Special reports by pupils on assigned topics.
5. Debates, floor talks.
6. Club organizations, club work. Conducting student activities, special-day and holiday programs, etc.
7. Collecting pictures and other illustrative material.
8. Making notebooks and scrapbooks.
9. Keeping an organized bulletin board up to date, current-event activities.
10. Use of stereographs, stereopticon, and motion pictures.
11. Collection, organization, and preservation of materials.
12. Laboratory exercises, simple experiments.
13. Sand table or other representation.
14. Current and contemporary accounts.
15. Analytical outlines, comparative notes.
16. Games, group drills.
17. Keeping growth graphs.
18. Trips to museums, libraries, markets, factories, Senate, Legislature, etc.

### Teacher Procedures

Teacher procedure may fall along a number of lines. It may be clearly one type or a mixture of a few or many. Teacher guidance is ever necessary to promote a worthy growth of all pupils.

1. Activities.
2. Problem—project.
3. Supervised study—directed study.
4. Socialized recitation.
5. Lecture (little by teacher—to give inaccessible information).
6. Group study and work—modern use of texts, references, etc.
7. Graduated assignments to suit varying abilities.
8. Laboratory work.

### Ability Groups

Each group will give its best contribution to the activities. No one knows which will give most. Wholesome participation and growth for all should be secured. Records may clarify this matter.

### Outcomes

It is not expected that all the outcomes listed will come either directly or indirectly as a result of the activities because this course has been empirically made in the absence of scientific data. The outcomes seem reasonable. It is hoped, through definite statements of the desired goals to be attained, to direct the teachers' and pupils' minds in such a way that eventually the "conscious bent" in attitudes toward citizenship of the highest type will become habitual.

Recognition of individual differences in outcomes is made in that ability to form the habit of doing one's best in all activities, to gain skill in finding and using facts in thinking, to develop power to appreciate worth, and to gain knowledge is found and developed in varying degrees in all pupils. Much research is needed before enough wisdom is gained to warrant a definite differentiation of outcomes for ability groups. The minimum essential for all groups is the "conscious bent" in citizenship attitudes of a high order.

1. The low group may well be held for attainment of ability to do its best, to hold good attitudes, and to secure a little knowledge.

2. The middle group may be expected to make reasonable attainment in the outcomes as outlined.

3. The high group may be expected to go beyond the outcomes listed in knowledge, attitudes, habits, and appreciations.

### "The Education Index"

The H. W. Wilson Company, 958–972 University Avenue, New York City, issued in March the first number of the *Education Index*. This publication indexes monthly the leading educational periodicals in English, the best educational periodicals in foreign languages, and current books, pamphlets, and documents on education. It describes and analyzes professional books in the field of education.

The scope of the *Education Index* is described by the publishers as follows:

There is one fundamental purpose back of this new index: it would serve as a clearing-house for educational literature. To accomplish this, it will attempt to furnish timely and appropriate references to all the important publications in the field of education.

### Home Work

The *New York Sun* has published several articles on home work. Two of these articles are as follows:

Declaring that the amount and the kind of home work given to students depend largely on the kind of curriculum the schools have and on the time that is devoted to each subject, Dr. William J. O'Shea, in a letter to the United

Parents Association, points out the difficulty of laying down any general rules for the assignment of home study.

The United Parents Association had asked for a statement of policy regarding the amount of home work assigned to children. Dr. O'Shea's reply reads in part:

"The amount and the kind of home work given depend largely on the kind of curriculum the schools have and on the amount of time that is being devoted to each subject. In the course of our curriculum-revision work five new syllabuses in five different subjects have already gone into effect and with them a tentative time schedule.

"I had planned to take up again the entire matter of home work when the revision of the course of study was completed.

"As the amount and the kind of home work should depend on various factors, such as the age of the pupil, his mental ability and physical condition, and home conditions, it is very difficult to give general directions that would be of much value."

Dr. O'Shea recalls past efforts at fixing a home-work policy. He states:

"In 1904 the Board of Superintendents adopted the following resolution: 'In the third and fourth years home study from books should be restricted to one subject each day, or at most to two subjects. In the fifth and sixth years the home study from books should be restricted to two subjects each day, and the time given to study to one hour. In the seventh and eighth years the home study from books should be restricted to three subjects in any one day and the time given to study to one and one-half hours.'

"In 1915 the Board of Superintendents adopted the following paragraph of a report submitted to it by one of its committees: 'The question of home work is one on which parents are not unanimous in their agreement. Some parents complain that their children do not have enough home work, others that they have too much. The Board of Superintendents is on record, through a circular issued to the principals some time ago, stating that home work in the fifth and sixth years should require not more than one hour of work, and in the seventh and eighth years not more than one and one-half hours of work. Furthermore, all home work should be in the nature of review rather than advance work. Whether or not home work in general is a burden to children is a moot question, even from the medical standpoint. It must also be remembered that the entire five hours in school are not a constant strain on the mental capacity of the pupils.' "

As has already been announced in the *Sun*, Dr. O'Shea has referred the whole subject of home work to the District Superintendents Association for further study and report. The district superintendents will gather data on the needs of their particular localities so that representative opinions from all parts of the city will be brought together. It is thought possible that this report of the district heads will show the advisability of adopting a definite policy in relation to home work.

Eight rules to serve as a guide to teachers in the assignment of home work

have been given to the faculty of Public School 153, Brooklyn, by Principal Henry M. Goldstein. In a circular presenting the rules, Mr. Goldstein points out that the problem of home work continually presents many aspects which are annoying alike to teachers, pupils, and parents.

He suggested that the teachers follow the principles outlined as a means of lessening the friction in this phase of school work. His chief recommendation is that home work should be regularly inspected. He also advises that home work should not be assigned as punishment.

The rules formulated by Mr. Goldstein are:

"1. All home work brought in must be inspected by the teacher. Home work that is not looked at by the teacher is absolutely valueless and should not be given. Inspection by the teacher does not necessarily mean personal correction of each part of the home work. Monitors may be assigned to do most of the correcting. However, there must be personal inspection by the teacher in some particular phase of the work.

"2. Teachers should exercise discretion in the amount of home work assigned. Teachers should guard against giving excessive home-work assignments. This, of course, is often done unintentionally. We must remember in assigning home work to consider the child's point of view when appraising the difficulty, length of time needed, etc.

"3. Home-work assignments should be in great measure application of work studied in class.

"4. Teachers should require some definite form and arrangement of home work in order that this exercise may serve also as training in order, neatness, and penmanship.

"5. When study assignments are given for home work, teachers should make sure that pupils know exactly what to do and how to proceed. A short time devoted to the correct method of procedure is more valuable than a great deal of aimless undirected effort on the part of the pupil.

"6. Should you become aware that unsatisfactory home conditions make it advisable not to require certain pupils to work at home, it is suggested that you confer with the supervisor in charge in order that special arrangements may be made for the pupils involved to do their home work in school before or after sessions.

"7. Teachers are cautioned not to assign home work as punishment. I need hardly call to your attention the unfairness of having the entire class do a long home-work assignment because a few children did poorly on a class exercise.

"8. In order that teachers may know the amount of time required to do home-work assignments, it is suggested that children be asked to indicate the time when the home work was started and the time when the home work was completed, or the time it took them to do the various parts of the assignment."

Evidently the problem of home work is an issue in England as well as in the United States. The following paragraphs are quoted from

the leading article in a recent issue of the London *Times Educational Supplement.*

At the annual meeting of the Assistant Masters' Association the following resolution was carried.

"While affirming the value and necessity of home work as a means of study free from the restrictions of class work, it should be limited in amount and definitely apportioned among the various subjects."

It is good to find a professional body taking official and serious cognizance of the question of home work, for there has been a strong undercurrent of uneasiness among parents (and among boys and girls) about it for some time, an uneasiness which has been manifest on the surface occasionally in sporadic attacks upon home work through the press, at parents' meetings, and, most vehemently, in private discussions. There seems to be among parents, and others, an impression that the teaching profession is likely to adopt a contemptuous or supercilious attitude whenever any proposals for the abolition or amelioration of home work are mooted, and the Assistant Masters' resolution should reassure them.

The resolution incorporates one of the main props relied upon in any defense of home work. It is, its defenders contend, a valuable and necessary "means of study free from the restrictions of class work." That home work is valuable may, perhaps, be conceded at once provided (1) that the home conditions are such that the work may be done in comfort and quiet, (2) that class work must of necessity occupy the whole of school hours, and (3) that the child is in good health and is not overburdened with too great or too difficult a task. Whether it can be conceded that it is necessary is quite another question. Is it necessary as an inevitable part of a child's training, or is it necessary simply in order that examinations be passed?

Here we move at once to a second argument advanced in defense of home work by its defenders: that the syllabus for the school-certificate examination cannot be covered without its aid. The validity of this argument obviously depends upon the premise that the syllabus for the school-certificate examination is beyond the reach of question, a premise few people will be prepared to accept. In their third argument the defenders of home work are upon surer ground, when they declare that in all school work there is a certain amount of repetition and working of exercises to be done which can well be carried on without supervision, which, indeed, it would be waste of a teacher's time to supervise. When a teacher has taught and explained, the pupil must practice and memorize if the lesson is to be thoroughly learned; clearly, a teacher can be of more use teaching elsewhere while this routine, habit-forming work is being done, or, as is the case, let the memorizing and practicing be saved for the evening so that the whole day can be preserved for the acquisition of new knowledge and skill. Again, there is work of a different type which can be set for home preparation; it is good, say the defenders of home work, that every now and then boys and

girls should have problems and new matter demanding initiative and resource to tackle unaided. Here is an opportunity for the training of character; such work demands perseverance, restraint from cinemas, games, and other distractions, and the putting forth of concentrated mental effort.

Another argument of a different character is put forward when the defenders of home work suggest that after tea is a suitable time for cerebration. The pupils' powers have flagged as a result of what has been, for them, a long working day, but, after the journey home and the stimulating effect of food and drink, the mind begins again to work at high pressure, and notably good results will ensue. It might be added also that work returned to after an interval springs more readily to the mind.

The arguments against home work are more numerous but perhaps for the most part not so general in their application as those advanced in its defense. It is for the reader to decide whether their cumulative effect is greater or less. Psychologists will argue that for growing children a five-and-a-half-hour working day is quite sufficient; socially minded parents will say that a child's education does not consist entirely of schooling and that the evening should be reserved for family intercourse and for gaining a knowledge of the outside world. This latter argument would be a great deal stronger if all such parents remembered that one of the primary needs of growing children is a long night's sleep. Parents whose children have a long way to travel to and from school may with reason, however, complain that home work prevents them from enjoying the amenities of family life. In poor homes and in homes where there are younger children it is often almost impossible for a boy or girl to find a quiet place in which to work. The mother, who is also the general servant of the home, quite reasonably complains at having to prepare two teas, one for the children, in order that home work may be done before bedtime, and another for the husband when he returns later from work.

But undoubtedly the most serious complaint leveled against home work is that it involves far too great a strain upon delicate, backward, or conscientious children, a strain which in not a few cases entails grave consequences. One need go no farther than a list of extracts from a recent newspaper correspondence to discover such statements as "Home work is a nightly curse in thousands of homes and a cause of nerve trouble, sleeplessness, and family friction." "I calculate that these pupils are tied to their school in one way or another for nearly seventy hours a week." Any teacher who has made anything of a study of home work can supplement these statements from personal experience.

### VENTILATION OF SCHOOLROOMS

For some years past the New York Commission on Ventilation has been emphasizing the desirability of open-window ventilation for schools. Building engineers have been slow in accepting the conclusions of the Commission. It is highly significant, therefore, that

A. C. Willard, professor of heating and ventilation and head of the Department of Mechanical Engineering of the University of Illinois, should make the following statements in a paper read before the American Public Health Association.

Measured in terms of the effect produced in the schoolroom as reflected by the comfort and health of the occupants, the following conclusions may be set down.

1. Studies based on respiratory illness as shown by absenteeism and infected pupils in attendance have shown generally better results for an intelligently operated open-window system than for some types of mechanical systems operating without proper humidification when supplying the generally accepted thirty cubic feet of air per pupil per minute.

2. The introduction of large quantities of dry air by mechanical means, especially where there are no air washers, necessitates higher air temperatures in the room to overcome the sensation of coolness produced by draftiness and rapid evaporation from the bodies of the occupants.

3. While comfort and health studies in schoolrooms have shown that incomplete or inadequate mechanical systems based on the antiquated $CO_2$ theory of supplying thirty cubic feet of all outside air per minute per pupil have been found to have certain shortcomings, it does not follow that a mechanical system as such is unsuited to proper and effective schoolroom ventilation. It would appear, rather, that a mechanical system designed on the basis of our present knowledge of the really essential factors affecting ventilation is in most cases the best present solution of this problem if complete and positive automatic control of the proper air conditions in a schoolroom is to be accomplished.

4. The ratio of room volume per pupil appears to have an important effect on the results secured with the open-window system. High values of this ratio are desirable, if not absolutely essential, in this case. Incidentally, a much wider distribution of the direct radiator surface becomes imperative, and much larger gravity vent flues are essential.

5. It would also appear that any attempt to place the responsibility for the entire control and regulation of the heating and ventilating system on the teacher is of dubious value when we stop to consider that, with constantly changing outside temperatures and winds, no possible adjustment of window openings can be correct for any length of time even for a given room. Considering the building as a whole, it will be apparent that rooms on the windward side are always subjected to pressure while those on the leeward side are subjected to suction whenever an appreciable wind is blowing. Outside air will readily enter the open windows of the former rooms, but inside air will pass out of the open windows of the latter rooms, so that open-window ventilation under windy-weather conditions can be applied to only one-half of the building at best. The leeward half has to take the "drift" of the air from the rooms of the other half.

6. A proper comparison of economic results is not easily made although

installation costs of the actual heating and ventilating equipment are obviously less for the open-window system than for the complete mechanical system, even though the latter supplies a much more conservative quantity of air than in the past. In operation, for the same amount of outside air supplied the classrooms, there should be no essential difference in fuel requirements. Motor operation will, of course, add to the operating cost of the mechanical system in which each room is always provided with a positive air supply, which is the prime requisite of controlled ventilation.

*Conclusions.*—As was stated at the outset, possibly no entirely satisfactory solution of the schoolroom-ventilation problem is possible by any system within the practical limits of cost. Extreme simplicity without positive air supply and automatic regulation places an unwarranted responsibility on the teacher, who must constantly adjust the windows to the vagaries of the weather. Complete mechanical systems will automatically maintain any desired atmospheric condition found essential to comfort and health in the classroom. Failures in the past, resulting from incomplete knowledge of the essential factors only recently identified, are no satisfactory index of comparison between what has been and what will be. The further discussion and investigation of this important matter should be pursued even more actively than in the past to the end that the best system may prevail.

## THE ALL-YEAR SCHOOL

In an article entitled "Enforced Idleness," published in the *Chicago Principals' Club Reporter* for February, 1929, Harold H. Postel writes in part as follows:

Chicago public schools will turn loose in June almost a half-million boys and girls who must depend, in most cases, upon their own devices for the occupation of their time during ten weeks of vacation. Thirteen thousand children, about 3 per cent of the total, will enrol in summer school. Those who attend will undoubtedly benefit, according to the report in the superintendent's bulletin.

The condition that permits 97 per cent of the student population to resort to the accidents of circumstance during summer time is not characteristic of Chicago alone. It exists in general throughout our country and is firmly established by tradition and the belief that a long vacation is necessary to recuperate from the fatigue caused by classroom requirements. Tradition was established at a time when most people were engaged in agriculture and the services of older boys and girls were needed on the farm during the summer months. The belief that a long vacation is necessary in the city probably arose at a time when the technique of instruction consisted of a tedious repetition of Greek conjugations and Latin declensions.

Science no longer adheres to tradition and general belief when the solution of a problem is desired, and education is a science as well as an art. Pasteur experimented with many series of inoculations before he secured a preventive

for hydrophobia. Edison used thousands of filaments before he secured a practical incandescent lamp. Education must use similar scientific methods to arrive at a satisfactory solution of its problems.

The all-year school has been suggested as a remedy for the unsatisfactory conditions which result in many cases from enforced idleness in our juvenile population. An all-year experiment must be set up, controlled, and carefully measured before we can arrive at a satisfactory conclusion regarding it. A task like this is not an easy one. The opposition that confronts every innovation must be forcefully counteracted; general belief must be overcome; and the increased cost must be justified by better quality in the character and preparation of our youth.

The all-year school differs from the present forty-week ten-week plan in that it does not attempt to cover a twenty-week course in ten weeks. A ten-week course with two daily class periods is not equivalent to a twenty-week course with one daily class period. Educational measurements verify this conclusion. Only the students who need review to prevent them from failing and the students whose mental efficiency is such that they can cover twenty weeks of work in ten are the ones who profit by the traditional summer-school classes. The new plan divides the year into four quarters of twelve weeks each, with two vacations of two weeks each, in December and July. The result is that most students, in places where the plan has been tried, sense the possibility of advancing under this plan, and 65 per cent summer attendance is secured in place of the 1 to 5 per cent under the system more generally used.

Newark has tried the plan of four equal quarters, and a brief exposition of the project will show that it has many possibilities. The school board recommended that the all-year school be compared with the traditional by a thorough application of intelligence and achievement tests. Dr. William McCall, of Columbia, an authority in the testing movement, was director of the survey. He advised that all contributing factors which entered into the situation should be studied, and the services of Dr. Andrew Wylie were secured to investigate conditions such as the racial, economic, and social. Dr. Atkinson, of the Russell Sage Foundation, studied the playground situation and made recommendations to meet the all-year requirements.

The results of the survey showed that, in general, children are not graduated two years earlier from the all-year school, but the abler children, who finish two or three years before the traditional time, do good work in high school. The all-year schools in Newark have a large proportion of less able pupils, and these schools are more successful in keeping the children in school until they have finished the elementary course. The survey showed that the children were not pushed through school at a rapid rate so that they were immature at the time of graduation. Most pupils who are served by these schools would be compelled to continue in the traditional school one or two years longer, which would take them beyond the compulsory age. Many would drop out at this point, as could be shown by an investigation in other cities.

### TEACHING OF SAFETY IN RURAL SCHOOLS

The following statement was issued by the Education Division of the National Safety Council, 1 Park Avenue, New York City.

Teachers in rural communities have been handicapped in teaching safety because of the lack of pertinent and suitable materials. For the first time information on the rural accident problem as related to the education of the country child has been analyzed. The results have been made available in *Safety Education in the Rural School*, recently published by the Education Division of the National Safety Council.

This manual does not pretend to be inclusive in its treatment of safety education but suggests topics for safety lessons based on hazards and occupations peculiar to rural districts.

A study of a questionnaire on the causes of accidents sent to over two thousand country-school children of Iowa, New Jersey, and Connecticut shows that home and farm accidents are far more numerous than public accidents and that falls, burns and scalds, and cuts head the list. Under suggested topics for safety lessons simple and specific information is given for the avoidance of these accidents. For example, "a stepladder should have all four feet on the floor and the braces set. Avoid climbing on a ladder that leans against a pile of hay or straw unless someone is holding the ladder at the bottom. New straw and hay are so slippery that the ladder may not remain in position unless it is held."

Or, "if a very bad storm occurs during the winter and it is necessary to let the live stock go outside for water, first make the footing secure by sprinkling sand or ashes or salt on the path leading to the water tank. Then the animals can be slowly led out. Their footing should be chosen as carefully as possible and their heads held up. If an animal falls, the person leading him may fall and be seriously injured."

Or, "when there are no sidewalks, pedestrians should walk on the *left* side of the road *facing* the approaching traffic. The greatest danger will then be in front of them."

Simple instructions for correlating these topics with the regular subjects, such as arithmetic, geography, nature-study, agriculture, language, community civics, and health education, are given. A short bibliography lists additional aids for the teacher.

Since it is estimated that approximately forty thousand persons in rural communities are sacrificed to accidents annually, it is earnestly hoped that this little manual will commend itself to both teachers and parents.

### PROBLEM CHILDREN

The following statement was contributed by W. E. McClure to a recent issue of the *Toledo School Exchange*, the official publication of the public school system of Toledo, Ohio.

A study of problem children in the grade schools of Toledo has been recently completed by the Juvenile Adjustment Agency. The purpose of the study was to determine the number of problem children who, according to the judgment of the teachers, should be referred to the Agency.

Of the 26,364 children covered by the survey, 533, or 2 per cent, were reported to be problems by the teachers. The first grade had the smallest percentage, while the sixth and seventh grades had the largest. There were five times as many boys reported as girls.

The problem children were, in general, retarded in school. The greatest amount of retardation appeared in the third grade, where the average was 18.5 months.

The average general intelligence for both boys and girls was 90 I.Q. The range was from 45 I.Q. to 151 I.Q. In other words, they ranged from the imbecile level to the genius level as determined by Terman's I.Q. schedule.

In the four lower grades the average was 86 I.Q., while in the four upper grades it was 95. This difference is due, perhaps, to the fact that many of the subnormal pupils drop out of school without spending many years in the upper grades, which would tend to raise the general average.

The teachers were asked to check from a list of thirty-five undesirable traits all that best characterized the children reported to be problems. The average number of traits checked was 7.7 per child. The seven most frequently reported were: constantly annoys children nearby, does not know how to study, does excessive whispering, is careless in written work, does not obey nor respect the teacher, is disorderly during intermissions, and is unreliable.

The five least frequently reported were: other children pick on the child, is sensitive of speech or other defects, draws obscene pictures, does not like the teacher, and is snobbish.

One hundred children who had the lowest I.Q.'s were compared with one hundred who had the highest I.Q.'s. The low group ranged in retardation from seventeen months in the first grade to thirty-four months in the sixth grade. The grade level for the high group was about normal. The low group presented twice as great a problem in the four lower grades as in the four upper grades, while the opposite was true of the higher group.

A complete report of this study will appear in the April number of the *Journal of Juvenile Research* under the title "Characteristics of Problem Children Based on Judgments of Teachers."

# BUSINESS AND EDUCATIONAL RESEARCH

LEONARD P. AYRES
Cleveland, Ohio

About 160 years ago the British Parliament was considered to be composed of representatives of the three estates: the lords spiritual, the lords temporal, and the commons; but Edmund Burke, pointing to the reporters' gallery in the course of a speech, said, "There sits a fourth estate, more important far than they all." Probably most of us would agree that even today and in America the four estates designated by Burke continue to be the controlling forces in shaping the events of our time and in determining their ultimate issue: the lords spiritual in the persons of the leaders of our church organizations and the Anti-Saloon League, the lords temporal in the persons of the leaders in big business, the commons in the persons of the politicians elected to Congress, and the fourth estate in our newspaper men.

The distinguished chemical engineer, Arthur D. Little, has recently claimed that there is in America a fifth estate, which is playing an even greater part than its predecessors in shaping our destinies, and that it is composed of the body of workers in the fields of scientific research. He argues his case ably and eloquently, but we might well question whether the designation of the fifth estate might not better be assigned to the workers in the field of education, or perhaps to those who control our theaters and motion pictures. Possibly, indeed, that fifth place belongs to the radio announcers.

However that may be, the claims of the workers in the fields of scientific research cannot be lightly dismissed. More than two hundred million dollars a year is being spent on research work in this country, and more than a thousand research laboratories are maintained by industrial corporations, trade associations, universities, foundations, and governmental agencies.

The workers in those thousand laboratories are a special group of men and women who are devoting their lives to extending the

boundaries of knowledge. They consist of the rare individuals who have the simplicity to wonder, the ability to analyze, the power to generalize, and the capacity to verify. They are the company of thinkers, workers, questioners, and explainers on which we are dependent for the preservation and advancement of that organized knowledge which we call "science."

If it were really true that knowledge is power, the research workers would without challenge take their places not as members of the fifth estate but as the undisputed occupants of the first estate. They have remade our modern world, replacing human drudgery by mechanical labor, providing for us new substances and materials through the miracles of physics and of chemistry. They are conquering disease and lessening human suffering. They enable us to travel and to communicate on the land, over the water, and through the air with ease and speed hitherto undreamed of. They have caused space and time to collapse. We marvel at their achievements, but, for the most part, we pay little attention to them as individuals. They have knowledge without power, just as our politicians have power without knowledge.

Research work in America is, in the main, of four types. First in the number of workers and in the generosity of support comes research in the physical sciences, sponsored by universities and by governmental agencies but urgently promoted by hundreds of great industrial corporations eagerly seeking to discover new ways to do the best and the most in the shortest time and in the easiest way. The second great group consists of research workers in the medical sciences, generously supported by foundations and institutions of learning and constantly justifying that support by their brilliant achievements.

These two groups of research workers in the physical and medical sciences are in constant communication with the corresponding groups of scientists in other countries, especially in Europe, for such work knows no national boundaries. There remain, however, two other important groups of research workers, which are distinctively American. Their work originated here, has developed here, and has not so far been extensively adopted abroad. These are the workers in business research and in educational research. It seems to be

true that the American people turn to research to broaden their knowledge, and to better their methods, concerning those things that they care most about. They are eagerly, restlessly, persistently forging forward in the fields of research in the physical and medical sciences, in business, and in education. They are not supporting research work on a large scale in the fields of government, religion, criminal justice, or human relations.

Business research and educational research are young. They have developed almost entirely in the years of this century. The early beginnings of each can probably be fairly traced to two men. The father of business research was the late Frederick W. Taylor, the first efficiency engineer, who started a ferment in the industrial world by his famous time studies. His pioneer work was broadened in application and carried from the shop into the office and applied to organization as well as to operation by an associate of his, the late H. L. Gantt, who was the originator of the famous Gantt progress charts. The work of both these men was based on the theory of comparing the amount of work done in a given time with what could and should be done and analyzing the reasons for failure to attain that standard. From that inception business research has developed until it is becoming an accepted principle among American firms that the choice is between research and retrogression.

The first pioneer in educational research was probably Joseph M. Rice, who brought upon himself a storm of criticism and denunciation from the National Education Association in the late nineties by publishing in the *Forum*, of which he was the editor, a series of articles describing the results of standard examinations which he had given in a number of city school systems. These results showed that the children in some school systems spent twice as much time in the study of spelling as did the children in certain other systems but that at the end of the course the children who had devoted the long periods to the study of spelling could not spell any better than could those who had spent only half as much time in studying the subject.

While the controversies that Dr. Rice stirred up were still raging, William H. Maxwell, the distinguished superintendent of schools of New York City, published a table in his annual report for 1904 com-

paring the ages of the children with their grades and showing that more than one-third of them were failing to make normal progress year by year. He was the original discoverer of the pedagogically retarded child, and the controversies that he started continued to harrow the minds of school administrators for the next decade.

Until Dr. Rice and Superintendent Maxwell did their pioneer work quantitative measurement was almost as unknown in the school as it is in the church. Since that time scores of books have been written on the subject; courses in educational research have been established in all universities having schools of education; and most large city school systems have organized departments to carry forward the work.

There is a common thread running through nearly all research in business and education that distinguishes the efforts in these fields from those in the physical and biological sciences. It was there in the work of the pioneers, and it is still there. It is the element of time. Taylor developed time studies in industry. Gantt originated progress charts in which time is the common denominator of all the measurements. Rice studied results in spelling as compared with the time devoted to the study of spelling. Maxwell compared progress through the grades with the time spent in the grades. The two chief subject matters of business and educational research are human actions and time. This is not true of research in the physical and biological sciences. Time is not important to molecules and microbes. It may and does enter as a factor in the more exact sciences but by no means with the universal importance that it assumes in all forms of research relating to the actions of human beings.

In human affairs time is the most important factor. Everything that we make or do consists of two elements: the time consumed and the result achieved. That is why time is a universal basal element in nearly all forms of business and educational research. Moreover, it is because these forms of research seek to explain the actions of human beings that they are requiring the development of new techniques, which often prove puzzling and irritating to the administrative officers who endeavor to utilize the findings as guides in the formulation of policies. This result is accentuated by the fact that the research workers in these new fields have invented a preposter-

ous and terrifying language of their own with which they expound their findings.

Probably we should not be too critical of either the recondite methods that the research workers in business and education employ or the horrid language which they use in explaining what they have done and what it means. They are confronted by new and grave difficulties. They have undertaken to explain conditions with which we are familiar but which we know ought to be improved, and their studies have shown them that in business and in education the apparently simple things are in reality appallingly complex.

In the early years of both business and educational research the workers were few in number, but progress was rapid because each new discovery suggested others that needed to be made, and, when the field was entirely untilled, it was easy to find many fertile spots that promptly yielded gratifying returns. In business, methods of computing sales quotas were developed; methods of mass production were worked out; business cycles were charted; and stock controls were devised to cut down inventories.

Similarly, in education the early steps were long ones. Vigilant watchfulness over the progress of pupils became general. Measuring scales for achievement in writing, spelling, arithmetic, and other subjects were developed. Studies in the economical use of space produced more efficient buildings, and a long series of school surveys resulted in comparisons between school systems by which the less successful procedures were disclosed and discarded and the more successful methods were made widely available.

It was inevitable that the rapid pace of the early years could not be maintained. The behavior of human beings is too subtle and complex to make that possible. Business research took a mighty forward step when business cycles were charted, but we have not yet been able to find out what causes the cycles. The early tests and scales for the measurement of school achievement were triumphs of quantitative psychology, but we do not yet know much about the reasons why one child can write twice as fast and twice as well as another and perhaps at the same time spell twice as badly and make twice as many mistakes in arithmetic.

We have now reached the stage of critical analysis in both busi-

ness research and educational research. Spectacular discoveries will be made in the future, but they will be infrequent. It cannot be otherwise. The fields of work in which research students in business and in education are breaking new ground are fields in which no set or series of conditions is ever repeated. If they were dealing with the more nearly exact sciences, they could proceed as do the more fortunate students in the physical and biological sciences, who can repeat and vary their experiments, while progressively controlling the conditions and limiting the accessory variations, until finally it becomes possible to draw truly general inferences.

The fields of research in business and education do not permit that. They have to do with living organisms and for the most part with the behavior of human beings. Because this is true, the observations are scattered; relationships are at best only approximations; cause and effect are blurred. It is seldom or never that research work in these fields is a seeking after laws, for in these humanistic studies the observations do not yield results of such degree of universality that they may be ennobled by designation as laws of nature.

The figures deal with life. They are expressions of nature's infinite variety. The end and aim of the research workers is to discover through studying them the relative importance of different contributing influences. The purpose is the formulation of observed relationships. If the research workers can formulate generalities of relationship, they may then, and not until then, have justifiable hopes of discovering the reasons for them. If they can state them, they can study them, test them, experiment with them, and perhaps ultimately explain them.

Because research in the fields of business and education requires patient plodding, there is growing up a tendency on the part of business and educational executives to relegate the collecting and tabulating of facts to persons called "statisticians" or "directors of research" but to exclude them from the discussions that lead to planning and proposing. Clearly the best results and the most rapid progress are not to be attained that way. Research work never serves its full function until the principles and conclusions that it has developed have been converted into policies of administration.

More than fifty years ago Oliver Wendell Holmes in "The Poet at the Breakfast-Table" made the following observation.

> One-story intellects, two-story intellects, three-story intellects with skylights. All fact collectors, who have no aim beyond their facts, are one-story men. Two-story men compare, reason, generalize, using the labors of the fact collectors as well as their own. Three-story men idealize, imagine, predict; their best illumination comes from above, through the skylight.

That is eternally true. Dr. Holmes's one-story men—fact collectors, who have no aim beyond their facts—represent unfortunately an ancient and still popular view of the statistician, and so of the research worker. Fact collectors are necessary, but the research program that stops there in the present-day business or educational organization is not worthy of the name. We must have one-story men. We must have also two-story men, who can compare, reason, and generalize, and, treating their facts honestly and dispassionately, are able to follow these facts through to their inevitable consequences. Even with the addition of the two-story men, the research function is not yet completely realized. We must have the three-story men with skylights, who, building on the facts of the one-story men and the conclusions of the two-story men, are able to idealize, to project their conclusions into the future, and to apply them to formulations of policy.

It may be said that business and educational executives are being described. They are. The young men most needed in the fields of business and educational research today are those who can exhibit, in however embryonic a form, those innate qualities of mind and personality that give promise of eventual attainment to executive rank. Initiative is one of the rare mental qualities; yet, without it, progress is impossible. Its combination with scientific imagination and command of facts is still rarer, but it is still more valuable.

The research method may be described as consisting of four processes: analytical scrutiny, exact measuring, careful recording, and judgment on the basis of observed facts. A recent writer[1] on business research has summarized the method in more popular terms as consisting of six steps:

[1] Joseph H. Barber, of the Walworth Company.

1. Sizing up the needs.
2. Spotting the real problem.
3. Inventing a theory.
4. Devising a method.
5. Proving the theory by the method.
6. Making the research pay dividends.

The writer does not subscribe to this entire formula, but he thinks that this research worker is entirely right when he includes as one of the first steps the one he calls "spotting the real problem." It is probably true that progress in business and in education is dependent not so much on knowledge as on resourcefulness. The real essential in overcoming difficulties and in improving conditions consists usually in finding out the real problem to be solved, and those who can do that are the ones who really make the contributions to life.

It is usually not very difficult to solve problems when they are exactly stated, but those who can clearly see new problems and precisely formulate them are the ones who make the real advance. We all know perfectly well that the young men and women whom we want as our associates in our daily work are those who have a way of seeing things that need to be done and have not yet been done. The question of finding out how to do such things is likely to prove comparatively simple.

The writer thinks that this research worker is right also in closing his list of six steps with the one he calls "making the research pay dividends." Here lies the difference between the ancient and the modern prophets. The modern prophet is a doer. No one can fix the best ratio between thinking and doing. The pure thinker is likely to think too much, and the active man is likely to be too active. The need in both business and education is for both thinking and acting, and the danger is that an attempt will be made to separate the two by constructing one compartment in business and educational organizations labeled "Research Department" and another entirely separate one called "Executive Offices."

The achievements of research in both business and education are impressive and inspiring. Its methods have substituted facts for theories, knowledge for tradition, and evidence for opinion. Research work in these fields needs more and better workers, but that

is not an important observation, for all fields of worthy work need more and better workers. What is really needed to carry research work onward and upward to greater service and loftier achievement is a better understanding of it, and a more general participation in it, by business men and educators who are in positions of top control. It needs an increasing conviction in the minds of thoughtful men that the future of our civilization depends on the widening spread and deepening hold of the scientific habit of mind.

The hope of the future as we look forward is that research may be supported and extended, because in proportion as that happens we shall have in our business affairs and in our professions increasing numbers of workers with open minds ready to remold convictions in the light of added knowledge.

# ITEMS OF INFORMATION COLLECTED BY DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

WILLIAM C. REAVIS
University of Chicago

The value of many professional courses in education offered in colleges and universities is determined to a large degree by the nature and scope of the available information concerning the schools in the various states. School data from the federal census are not sufficiently detailed to be of great use and are usually not available before they have become obsolete. The information collected by the United States Bureau of Education is published from two to three years after it is collected, and the totals are usually estimated on account of the incomplete returns. The only remaining source of current information regarding schools in general is in the reports prepared and published annually by the state departments of public instruction.

The assembling of school data from different states is conditioned by the comparability of the items on which information is collected. For example, State A collects annually census data for children from birth to twenty-one years of age; State B, for children from four to twenty-one years of age; State C, from six to twenty-one; State D, from six to eighteen; State E, from seven to seventeen; and State F, from eight to sixteen. Obviously, it is impossible to ascertain the total number of children from six to eighteen years of age in the six states. State reports are therefore valuable in yielding current information about schools only to the extent that the items on which information is collected by the different states are comparable.

This article presents an analysis of the items contained in the forms used by the departments of public instruction of ten representative states[1] in assembling data from local school districts for

[1] Listed alphabetically but not so arranged in the tables, these states are Arizona, Illinois, Kansas, Kentucky, Maine, Minnesota, Mississippi, New York, Texas, and Washington.

their annual reports. The purpose of the study was to ascertain (1) the nature and the scope of the information about schools which is collected in the states in question and (2) the number of items of information which are common in the forms used by the different states.

Tables I and II show the extent of variation in the items contained in the forms used in the ten states to collect educational information. Table I shows the number of items of information gathered by the individual states under three major headings—"Pupils," "Finance," and "Teachers"—which include approximately 98 per

TABLE I

NUMBER OF ITEMS OF INFORMATION COLLECTED ANNUALLY BY THE DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

| HEADING | STATES | | | | | | | | | | NUMBER OF DIFFERENT ITEMS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | |
| Pupils..... | 40 | 145 | 53 | 59 | 79 | 73 | 107 | 85 | 109 | 57 | 753 |
| Finance..... | 42 | 32 | 120 | 21 | 47 | 28 | 107 | 112 | 66 | 53 | 356 |
| Teachers..... | 56 | 90 | 166 | 174 | 74 | 71 | 95 | 182 | 82 | 294 | 896 |
| Total.... | 138 | 267 | 339 | 254 | 200 | 172 | 309 | 379 | 257 | 404 | 2,005 |

cent of the items contained in the forms. A total of 2,005 different items of information are collected by the ten states under the three headings. The range in number of items is from 138 in State A to 404 in State J; the average is 200.5 items per state. Interesting variations appear in the number of items collected under the different headings. State A collects 40 items of information about pupils, while State B collects 145. State D collects 21 items about finance as contrasted with 120 items collected by State C. State A collects 56 items about teachers, while State J collects 294.

Table II shows the number of different items of information collected and the extent to which the items are collected by the ten states. Of the 2,005 different items collected under the three major headings "Pupils," "Finance," and "Teachers," 1,633, or 81.4 per cent, are collected by only a single state. One hundred and ninety-nine items are collected by two states; eighty-five, by three states; thirty-one, by four states; twenty-five, by five states; seventeen, by

six states; seven, by seven states; seven, by eight states; and one, by nine states. No single item is collected by all the ten states. Only 32, or 1.6 per cent, of the items are collected by more than one-half of the ten states.

The information collected under the major heading "Pupils" covers roughly five subheadings: "Attendance," "Absence and Tardiness," "Census," "Enrolment," and "Pupil-accounting." Table III shows the number of items of information collected under each of these subheadings by each of the ten states. The total number of different items of information collected by the ten states under

TABLE II

FREQUENCY OF OCCURRENCE OF 2,005 DIFFERENT ITEMS OF INFORMATION IN FORMS USED BY THE DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

| Heading | One State | Two States | Three States | Four States | Five States | Six States | Seven States | Eight States | Nine States | Ten States | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pupils..... | 693 | 51 | 6 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 753 |
| Finance..... | 244 | 41 | 35 | 14 | 8 | 6 | 3 | 5 | 0 | 0 | 356 |
| Teachers..... | 696 | 107 | 44 | 16 | 15 | 11 | 4 | 2 | 1 | 0 | 896 |
| Total.... | 1,633 | 199 | 85 | 31 | 25 | 17 | 7 | 7 | 1 | 0 | 2,005 |

the five subheadings is 753. The range is from 40 items in State A to 145 items in State B.

Table III reveals extremes in practice which are difficult to rationalize. For instance, State C collects only one item of information regarding attendance, namely, the average daily attendance of pupils in each school district. In contrast with this, State B collects eighty-nine items about attendance. States C, D, E, H, and J collect no information regarding absence and tardiness. State G collects twenty items of information about absence and tardiness; State I, nine; State B, three; and States A and F, one each. If one state can administer its schools with one item of information regarding attendance and five states find no need for data pertaining to absence and tardiness, it is difficult to conceive of the possible uses which one state can make of eighty-nine items regarding attendance and another state of twenty items pertaining to absence and tardiness. A study of the school laws of the states in question shows that the

extreme variations in practice cannot be explained by the local legal requirements.

In Table IV the 753 items of information regarding pupils are classified according to frequency of occurrence in the forms used by the different states. Six hundred and ninety-three, or 92 per cent,

TABLE III

NUMBER OF ITEMS OF INFORMATION REGARDING PUPILS COLLECTED ANNUALLY BY THE DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

| SUBHEADING | STATES | | | | | | | | | | NUMBER OF DIFFERENT ITEMS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | |
| Attendance | 4 | 89 | 1 | 26 | 4 | 5 | 60 | 30 | 52 | 29 | 287 |
| Absence and tardiness | 1 | 3 | 0 | 0 | 0 | 1 | 20 | 0 | 9 | 0 | 32 |
| Census | 24 | 7 | 4 | 7 | 5 | 6 | 0 | 3 | 12 | 6 | 60 |
| Enrolment | 10 | 30 | 22 | 14 | 53 | 58 | 6 | 21 | 27 | 18 | 236 |
| Pupil-accounting | 1 | 16 | 26 | 12 | 17 | 3 | 21 | 31 | 9 | 4 | 138 |
| Total | 40 | 145 | 53 | 59 | 79 | 73 | 107 | 85 | 109 | 57 | 753 |

TABLE IV

FREQUENCY OF OCCURRENCE OF 753 DIFFERENT ITEMS OF INFORMATION REGARDING PUPILS IN FORMS USED BY THE DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

| Subheading | One State | Two States | Three States | Four States | Five States | Six or More States | Total |
|---|---|---|---|---|---|---|---|
| Attendance | 266 | 20 | 1 | 0 | 0 | 0 | 287 |
| Absence and tardiness | 30 | 2 | 0 | 0 | 0 | 0 | 32 |
| Census | 52 | 5 | 1 | 0 | 2 | 0 | 60 |
| Enrolment | 213 | 20 | 2 | 1 | 0 | 0 | 236 |
| Pupil-accounting | 132 | 4 | 2 | 0 | 0 | 0 | 138 |
| Total | 693 | 51 | 6 | 1 | 2 | 0 | 753 |

of the items are collected by single states only. Fifty-one items are collected by two states; six, by three states; one, by four states; and two, by five states. No single item of information about pupils is collected by more than five of the ten states.

Table V shows the number of items of information collected with regard to finance. Of the 356 different items of information collected by the ten states, 280 concern expenditures and 76 concern receipts.

The range in number of items concerning expenditures is from fourteen in State D to ninety-six in States C and H. In the case of receipts, the range in number of items is from none in State A to thirty-three in State G. The variation in the number of items regarding expenditures for general control, instruction, maintenance of plant, and the like, which have been subjected to powerful standardizing influences for a number of years, is greater than one would expect. The range in the total number of items regarding finance is from 21 in State D to 120 in State C.

TABLE V

NUMBER OF ITEMS OF INFORMATION REGARDING FINANCE COLLECTED ANNUALLY BY THE DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

| SUBHEADING | STATES | | | | | | | | | | NUMBER OF DIFFERENT ITEMS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | |
| Expenditures: | | | | | | | | | | | |
| General control | 11 | 4 | 20 | 5 | 4 | 2 | 16 | 13 | 16 | 3 | 39 |
| Instruction | 8 | 4 | 19 | 2 | 7 | 2 | 13 | 16 | 7 | 4 | 51 |
| Maintenance of plant | 5 | 2 | 1 | 0 | 2 | 2 | 4 | 8 | 7 | 2 | 23 |
| Operation of plant | 7 | 1 | 3 | 1 | 3 | 1 | 8 | 9 | 7 | 2 | 19 |
| Auxiliary agencies | 7 | 2 | 10 | 0 | 6 | 2 | 11 | 17 | 7 | 5 | 37 |
| Fixed charges | 4 | 2 | 5 | 3 | 3 | 2 | 13 | 14 | 4 | 10 | 37 |
| Capital outlay | 0 | 1 | 2 | 1 | 2 | 1 | 8 | 13 | 5 | 6 | 25 |
| Miscellaneous | 0 | 7 | 36 | 2 | 5 | 3 | 1 | 6 | 10 | 4 | 49 |
| Total | 42 | 23 | 96 | 14 | 32 | 15 | 74 | 96 | 63 | 36 | 280 |
| Receipts (total) | 0 | 9 | 24 | 7 | 15 | 13 | 33 | 16 | 3 | 17 | 76 |
| Grand total | 42 | 32 | 120 | 21 | 47 | 28 | 107 | 112 | 66 | 53 | 356 |

The data presented in Table VI throw some light on the character of the variations exhibited in Table V. Of the total of 356 items of information regarding finance, 244, or 68.5 per cent, are collected by only one state; 41 items are collected by two states; 35, by three states; 14, by four states; 8, by five states; 6, by six states; 3, by seven states; and 5, by eight states. No single item of information is collected by more than eight states, and only fourteen items are collected by more than five states. A careful study of the forms used shows that much of the variation can be explained by the fact that the makers of the forms failed to ask for information about com-

parable items. For example, under the subheading "Maintenance of Plant," four states ask for the expenditure for fuel during the year; one state asks that the cost of fuel for white schools be separated from the cost of fuel for colored schools; one state asks for the total cost of "fuel, light, and water"; another state lumps the cost of "fuel, water, light, power, and janitor service"; three states include "Fuel" under the single item "Total Operating Expenses." The lack of agreement in the practice of collecting information with respect

TABLE VI

FREQUENCY OF OCCURRENCE OF 356 DIFFERENT ITEMS OF INFORMATION REGARDING FINANCE IN FORMS USED BY THE DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

| Subheading | One State | Two States | Three States | Four States | Five States | Six States | Seven States | Eight States | Nine or More States | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Expenditures: | | | | | | | | | | |
| General control | 19 | 6 | 3 | 6 | 1 | 4 | 0 | 0 | 0 | 39 |
| Instruction | 40 | 3 | 3 | 1 | 3 | 0 | 0 | 1 | 0 | 51 |
| Maintenance of plant | 18 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 23 |
| Operation of plant | 10 | 2 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 19 |
| Auxiliary agencies | 26 | 2 | 6 | 1 | 1 | 0 | 0 | 1 | 0 | 37 |
| Fixed charges | 23 | 7 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 37 |
| Capital outlay | 15 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| Miscellaneous | 41 | 2 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 49 |
| Total | 192 | 30 | 29 | 13 | 7 | 5 | 1 | 3 | 0 | 280 |
| Receipts (total) | 52 | 11 | 6 | 1 | 1 | 1 | 2 | 2 | 0 | 76 |
| Grand total | 244 | 41 | 35 | 14 | 8 | 6 | 3 | 5 | 0 | 356 |

to standard items of maintenance expense, such as fuel, points clearly to the absence of standardizing influences in the preparation of forms by the state departments of public instruction under consideration.

Table VII shows that the ten states collect a total of 896 different items of information regarding teachers. The range in number of items is from 56 in State A to 294 in State J. When the items under the different subheadings are studied, the character of the variation is understood. Three states have only one item each under "Certificates"; another state has ninety-two items. One state has three items under "Qualifications"; another state, thirty-three. One state asks for no information regarding "Positions"; another state

lists 108 items. One state has seven items under "Salaries"; another state, 199. Two states ask nothing about experience; another state asks fourteen questions. Two states require no personal data; another state asks for nineteen items of information. Six states ask for

TABLE VII

NUMBER OF ITEMS OF INFORMATION REGARDING TEACHERS COLLECTED ANNUALLY BY THE DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

| SUBHEADING | STATES | | | | | | | | | | NUMBER OF DIFFERENT ITEMS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J | |
| Certificates | 1 | 10 | 92 | 15 | 1 | 10 | 17 | 12 | 1 | 81 | 231 |
| Qualifications | 13 | 16 | 14 | 30 | 19 | 13 | 33 | 3 | 11 | 13 | 53 |
| Positions | 24 | 46 | 29 | 33 | 28 | 19 | 0 | 108 | 38 | 1 | 185 |
| Salaries | 11 | 13 | 29 | 64 | 7 | 21 | 12 | 49 | 25 | 199 | 351 |
| Experience | 1 | 1 | 1 | 12 | 8 | 1 | 14 | 0 | 4 | 0 | 29 |
| Personal data | 2 | 1 | 0 | 10 | 8 | 3 | 19 | 10 | 3 | 0 | 26 |
| Recent schooling | 4 | 0 | 0 | 3 | 2 | 3 | 0 | 0 | 0 | 0 | 11 |
| Miscellaneous | 0 | 3 | 1 | 7 | 1 | 1 | 0 | 0 | 0 | 0 | 10 |
| Total | 56 | 90 | 166 | 174 | 74 | 71 | 95 | 182 | 82 | 294 | 896 |

TABLE VIII

FREQUENCY OF OCCURRENCE OF 896 DIFFERENT ITEMS OF INFORMATION REGARDING TEACHERS IN FORMS USED BY THE DEPARTMENTS OF PUBLIC INSTRUCTION OF TEN REPRESENTATIVE STATES

| Subheading | One State | Two States | Three States | Four States | Five States | Six States | Seven States | Eight States | Nine States | Ten States | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Certificates | 225 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 231 |
| Qualifications | 19 | 8 | 9 | 2 | 5 | 4 | 3 | 2 | 1 | 0 | 53 |
| Positions | 103 | 47 | 22 | 6 | 4 | 2 | 1 | 0 | 0 | 0 | 185 |
| Salaries | 297 | 36 | 6 | 4 | 5 | 3 | 0 | 0 | 0 | 0 | 351 |
| Experience | 21 | 5 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 29 |
| Personal data | 13 | 5 | 4 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 26 |
| Recent schooling | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Miscellaneous | 8 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Total | 696 | 107 | 44 | 16 | 15 | 11 | 4 | 2 | 1 | 0 | 896 |

no information regarding recent schooling; the other four states have a total of twelve items. Five states ask no miscellaneous questions about teachers; the other five states ask a total of thirteen questions. These marked variations in the nature and the scope of the information regarding teachers collected by the ten departments

of public instruction exhibit a condition which merits critical examination by the officers in charge.

Table VIII shows that, of the 896 different items of information about teachers collected by the ten states, 696, or 77.7 per cent, are collected by only one state. One hundred and seven items, or 11.9 per cent, are collected by two states. Of the remaining ninety-three items, only eighteen are collected by more than five states, and no one item is collected by all the states. The most chaotic condition prevails with respect to the items of information concerning certificates. Of the total of 231 different items, 225, or 97.4 per cent, are collected by only one state. Four items are collected by two states; one item, by three states; and one item, by four states. No single item of information is collected by more than four states.

## SUMMARY

This study of the forms used by the departments of public instruction of ten representative states in collecting data annually regarding their schools shows that at present no single item of information is collected by all the states. The information collected by the different states varies widely. Some of the forms include details of no educational significance either locally or nationally; others appear to have undergone critical revision in parts; still others show evidence throughout of a careful effort to delete the unimportant and to collect from the schools only information of vital importance.

Reorganization and standardization of certain items of information collected by the states are obviously needed. Standardization can take place without interfering with the legal requirements of individual states. The forms could be divided into two sections, one for standard items and the other for items required locally. The standard items could be made available to some organization of national character for summary treatment and distribution. Three major purposes would thus be served: (1) Comparable current educational data for all the states would be made available to every interested person. (2) The enormous waste involved in the collection of many useless items of local information would be eliminated. (3) State departments of public instruction would be spared the annoyance of numerous requests to supply current educational information.

# EXPERIENCE AS A BASIS FOR BEGINNING READING

RUBY MINOR
Director of Kindergartens and Elementary Education, Berkeley, California

During the past few years the teachers of the primary grades in the Berkeley schools have placed increasing emphasis on experience as a basis for reading. The result of this emphasis is a greater readiness for reading in the low first grade and a growing interest in all reading activities.

It is the purpose of this article to list a few of the activities which have served as a basis for first-grade reading, to discuss briefly and illustrate the types of reading lessons which have been used, and to summarize the values derived.

*Suggested activities for the first grade.*—The following are a few of the activities which have been carried on in first-grade classrooms and which have been of interest to the pupils.

1. Having a party—a birthday party, a Christmas party, or an Easter party.
2. Observation and care of pets and other animals—ducklings, birds, kittens, fish, turtles, crabs.
3. Observation and study of plant life—seed germination, forcing of leaf and flower buds, window boxes, wild-flower exhibits, etc.
4. Playing with toys—dolls, dishes, furniture, Teddy bears, trains of cars, skates, etc.
5. Keeping a daily news bulletin of interesting events—special days (Columbus Day, Easter, Thanksgiving, etc.), school activities (plays, operettas, pageants, exhibits, etc.), and current events (the arrival of the fleet, etc.).
6. Keeping a daily weather bulletin.
7. Keeping a diary of interesting school events.
8. Building and equipping a store.
9. Building a farm on the sand table.
10. Making a puppet show.

The progressive teacher realizes that many possibilities for valuable experience are to be found within a short distance from the school building. She therefore utilizes the school grounds and the

class excursion for the study of the following subjects of interest:[1]

Trees—leaves, bark, shape, blossoms, uses.

Gardens—both flower and vegetable gardens. The children often have their own school garden. This interest leads the class to visit the home gardens of many of the members of the class.

Pets that may not be kept conveniently in the classroom—pony, rabbits, dogs, hen and chickens, pigeons. Some of these pets are kept in appropriate quarters on the school grounds and cared for by the pupils.

Poultry—In a few schools the older pupils have organized poultry clubs. The poultry pen thus furnishes interesting study opportunities for the younger pupils. Often the class visits the home of a child to see the poultry pen.

Building construction and other occupations available for study in the neighborhood.

*Types of reading lessons.*—The type of reading lesson which is developed from the experience depends on the nature of the activity, the needs of the children, and the disposition of the teacher.

Frequently the pupils have a class discussion of the most interesting features of the activity. The teacher encourages the keeping of a record. Sentences are dictated by the pupils and written or printed on the blackboard by the teacher.

The following day the lesson unit appears on a large reading chart printed by the teacher with a chart printer, with which each building is equipped. The next step usually is to provide the children with individual copies of the lesson, which the teacher has typewritten and mimeographed. For this purpose a primer typewriter is used since the stencils cut on a regulation typewriter provide print too small for young children.

Many teachers who are skilful in printing prefer to print by hand both the chart and the individual lesson, which is hectographed for class distribution. This practice is discouraged in the low first grade for the obvious reason that young children should not be required to master a number of different mediums at one time. Few teachers can print so accurately that the work does not present some new adjustments for the children to make.

Frequently the teacher prints the sentences on separate slips of

[1] The limitations of urban life make it necessary that the schools foster an interest in plant and animal life and in the industries which provide for the necessities of life.

Manila tag board to be matched with the chart by the pupils. Later the sentences are cut into phrases and then separated into the individual words for drill in recognition of vocabulary.

These individual lessons are accumulated from day to day and are assembled in booklet form, often being accompanied by original illustrations by the pupils.

After the pupils have learned to write, the procedure is varied by having the children copy the lesson on wide-ruled paper, thus providing meaningful drill in penmanship and spelling.

Sometimes the theme is covered by only one lesson. At other times a series of lessons develops around one activity.

Often the teacher varies the procedure and gives needed drill on vocabulary by introducing riddles, directions for desk work, or questions that the children are expected to read silently and answer orally. All these devices bear a definite relation to the activity of greatest interest to the children at the time.

These lessons based on experience do not take the place of reading from a book. Rather, they give the pupils a more vivid background of interpretation and make possible a richer enjoyment and a more encouraging progress when the book is presented. Often the teacher is able to guide the situation in such a way that there is a high degree of correlation between the vocabulary used in the experience lessons and that of the reading textbook.

*Illustrations of reading lessons.*—The following illustrations are presented to show the interest element, the simplicity of the vocabulary and sentence structure, the variation in procedure, the natural outgrowth of silent reading, and the opportunity for language development. The descriptions were furnished by teachers.

A little girl brought her kitten to school one afternoon. This afforded good material for a very simple reading lesson.

VIOLET'S KITTEN

A little cat came to see us.
It was Violet's cat.
It was black.
It had white feet.
What was its name?
Its name was Pussy-Willow.

One of the little girls had a birthday, which provided a splendid opportunity for Americanization work with the little foreigners. After the party the details

appeared in a brief chart reading lesson and later furnished a page in the individual booklets.

LEONTINE'S PARTY

Leontine had a birthday party.
She was seven years old.
We played games.
Then we went down to the lunch room.
We had little cakes.
The candles were yellow.
We had a good time.

For nature work the pupils made some little houses and placed a few of the best ones in the sand box, all facing one main street. They discussed the arrangement of the flowers, paths, and trees in the yards. Little Walter was very eager to have the children go to see his yard. It proved a rare yard indeed for that vicinity. There were rabbits, chickens, choice birds, and beautiful plants, all adequately taken care of in a small space.

After the visit the class patterned the sand box after Walter's yard. They also made a reading chart and later put the same little lesson, typewritten, in their booklets.

WALTER'S YARD

We went to Walter's house.
We went to see his yard.
There are flowers in his front yard.
There are rabbits in his back yard.
Father rabbit is big.
Mother rabbit is middle sized.
Baby rabbit is little.

A girl in the room brought three rabbits to school. The rabbits came as a surprise. A conversation lesson ensued in which animal friends were discussed. The pupils were encouraged to pet, handle, and examine the rabbits while they learned of the best way to care for these pets. Rabbit stories were enjoyed by the class, and the following lesson was developed by the pupils.

MARJORIE'S THREE RABBITS

Marjorie has three rabbits.
Two of them are brown.
One rabbit is black.
The black rabbit has black eyes.
The brown rabbit has brown eyes.
Their names are Peter, Cottontail, and Jackie.
They eat carrots, oats, barley, and grass.
Marjorie got these rabbits as an Easter present.
They are Russian rabbits.
She brought them to school to show our class.
We all enjoyed the rabbits.

A short silent-reading lesson is placed on the blackboard every morning. These lessons are based on different experiences and are of various types. The following are two lessons relating to the first California poppy brought to school this spring.

CLASS READING LESSON

Father, Mother, Bob, and Mary went for a ride yesterday.
They went to Hayward.
First, they drove to Lake Merritt to see the ducks.
Along the highway Mary saw some beautiful golden wild flowers.
Bob said, "Oh, see the poppies."
Father stopped the machine.
Bob and Mary got out and picked some poppies.
Bob said, "We must not pick too many."
"We must leave some for others."
"We must leave some to make seeds for next year."
So Mary and Bob picked a few for mother and a few to bring to school.

SILENT-READING LESSON

I am a wild flower.
I grow in many, many places.
You may find me on the highway, in the fields, in the vacant lots, or in your garden.
Sometimes people call me a "cup of gold."
Now, you know my color.
I am California's flower.
People have written poems about me.
You know a song about me.
What is my name?
Draw me.
Draw my bud.
Color my flower orange.
Color my bud.

The children had been working on a farm project. They had discussed the various animals on the farm and why the farmer kept them. They had made a poster about the cow and the things she gives us. They had learned the song "The Cow" from *Songs of the Child World*, No. III, by Riley and Gaynor.

As a surprise, the implements for butter-making were found in the room one day. Interest and attention were intense throughout the entire process. Each child took part in shaking the jar.

MAKING BUTTER

We had one pint and one gill of cream.
We put the cream in a jar and shook it.
Yellow butter came.
Buttermilk came too.
We put the butter in a bowl and salted it.

As the seasonal changes appear, the pupils are encouraged to make discriminating observations of nature facts which may stimulate their interest. The class excursions and exhibits of nature specimens in the classroom are aids to this end.

OUR DIARY

Tuesday we went for a walk. We hunted for trees. We saw some buds on the trees. Soon we are going to look at them again.

We have a calendar. It is for February. If it is sunny, we paste a sun on that day. If it rains, we draw rain. Today the wind is blowing. Peter is drawing a little girl. Her dress is blowing.

We have a branch of flowering plum, Japanese peach, and Japanese almond in water. We are going to watch the buds come out.

Near the corner there are two trees. We have been watching them. Today the branches looked green. The buds looked red.

Vaneta brought the first California poppy. We pressed the poppy. Here it is.

The brodiaea is pretty. It grows in the fields. It blooms in the spring. When it is just coming up, it looks like a purple button.

We are dressing two Dutch dolls. The patterns are in a box. The cloth is in another box. We sew when we have time.

We pin the patterns. We cut the cloth very carefully. After we cut, we put the patterns away.

*Values derived from the described procedure.*—The most important outcome of this type of recitation is the joy realized by the child in a natural procedure in which he has an active personal interest and which relates the classroom procedure to his other life-interests.

It awakens the interest of the mentally dormant child and stimulates the abilities of the alert pupil.

It develops confidence by making success easy for the more timid pupils to achieve.

It provides an avenue of expression by establishing a common background of familiar concepts and develops a speaking vocabulary, which precedes the required reading vocabulary.

It enables the teacher to detect and correct errors in group work and to give guidance in keeping the place, increasing the eye span, improving natural expression, and cultivating clear enunciation.

It permits the development of language principles which may be more easily acquired in connection with experiences of vital interest—for example, capitalization, punctuation, use of margin, correct sentence sense, and choice of words.

It establishes a bond of sympathy between the teacher and the pupils that contributes to a happy classroom atmosphere.

The reading ability developed by this type of procedure has not been compared in scientifically controlled experiments with the reading ability developed by other methods. Statistics of the research department show, however, that Berkeley has a much lower percentage of failure in the first and second grades than is common, averaging during the past eight years only 11 per cent in the low first grade, 8 per cent in the high first grade, 4 per cent in the low second grade, and 3 per cent in the high second grade. When it is recalled that the percentage of failure in the first grade often reaches 25, the comparison is significant. Throughout the entire elementary school the pupils rank consistently above the standard norms in all reading tests.

These facts, supplemented by the favorable opinion of experienced teachers, lead to a continuation of the practice of enriching the pupils' experience by means of wholesome activities, which form the basis of reading procedure.

There are dangers in this type of procedure which will be obvious to the experienced teacher. The time consumed must be balanced by real achievement on the part of the pupils. The teacher must have the qualities of leadership without dominating to the extent of suppressing the originality and expression of the pupils.

Activities should be selected for their value as well as for their interest appeal and, once begun, should be carried to completion. Such a program demands an appreciation of social values and an understanding of classroom management appropriate to the type of work.

Such a conception recognizes freedom of the highest quality, freedom that takes into consideration the rights of others. With this ideal kept before the children as a standard of behavior, there need be no fear that the activity program will develop schoolroom "disorder."

The thoughtful teacher will recognize in the various departures from the usual program opportunities to develop in the pupils the qualities of good citizenship, which are the most essential outcomes of the teaching situation.

# MORAL JUDGMENTS OF FIRST-GRADE CHILDREN AND A METHOD OF SECURING THEM

A. M. CARMICHAEL
State Teachers College, Mayville, North Dakota

The purposes of this article are two: (1) to set forth the conclusions which may be drawn from a test given to first-grade children designed to find out whether they know the conventionally accepted correct responses to situations to which they often respond with misrepresentation of facts; (2) to describe and evaluate a method used to secure these judgments in a group.

The writer gathered several hundred descriptions of situations to which children fully six but not yet seven years of age responded with acts considered good or bad.[1] To 289 of these situations 119 different children responded with misrepresentation of facts. These 289 situations were analyzed for their constitutent factors, and a classification was made.[2] A test was devised and administered to first-grade children which consisted of six practice situations to which children respond frequently with striking or biting and twenty stories or situations selected from the various types of situations represented in the 289.

After each situation was read to the children, three responses which the child in the story might make were read, and the children were asked to indicate which response the child *ought* to make. One response always represented the facts as they were; one directly misrepresented them; and one avoided the issue in some way. In order to facilitate the expression of the children's choice of the correct response, each response was identified with a certain color, and

[1] Albert Maxwell Carmichael, *Moral Situations of Six-Year Old Children as a Basis for Curriculum Construction.* University of Iowa Studies in Education, Volume IV, Number 6. Iowa City, Iowa: University of Iowa, 1927.

[2] A. Max Carmichael, "To What Objective Stimuli Do Six-year-old Children Respond with Intentional Misrepresentation of Facts?" *Pedagogical Seminary and Journal of Genetic Psychology,* XXXV (March, 1928), 73–83.

the children indicated their judgments of the correct response by depositing in boxes cards corresponding in color to the colored cards identified with the responses. The cards in the boxes constituted the objective record of the children's choices. These cards were later taken out and their colors recorded on a permanent form.

The formulas used after the stories were read to identify the colors with the responses are illustrated by the formula for the first story of the twenty:

> Now what ought Jack to do?
>
> If you think that [The instructor holds up his red card.] Jack ought to say, "Yes, Miss Rose, I did," you will put your red card in your box.
>
> Or if you think that [The instructor holds up his green card.] Jack ought to say, "No, ma'am, I did not," you will put your green card in your box.
>
> Or if you think that [The instructor holds up his yellow card.] Jack ought to cry and to say, "I don't think I did," you will put your yellow card in your box.

The test was given to 504 first-grade children, of whom 241 were in Section B and 263 were in Section A. The median age of these children was 80.05 months. The range in ages was from 64 to 114 months, with an interquartile range of 7.85 months. The test was given also to twenty-five ungraded primary children. Their chronological ages ranged from 79 to 118 months, their mental ages from 63 to 94 months, and their I.Q.'s from 68 to 96. The median chronological age was 93 months; the median mental age, 82 months. The test was given to twenty-five pre-primary children with only two responses for each story, the response avoiding the issue being eliminated. Their ages ranged from 73 to 91 months, the median age being 76 months. These children were considered incapable of doing first-grade work at the time.

The test was given in six schools in two large cities in the Middle West. The schools were selected because of the alleged differences in the social, economic, intellectual, and native backgrounds of the children (Table I). School A is in an indigent section. That its intellectual standing is low is evidenced by the high median age of the children. It was in this school that the ungraded and pre-primary children were tested. About 30 per cent of the children were colored. Schools B and C were chosen particularly for the alleged language

difficulty of the children. The parents were chiefly Polish, Syrian, Greek, Russian, Austrian, and Czechoslovakian. The parents of the children in School D were business men and industrial workers. This school had an unclassified room. School E is in a wealthy college section, and School F is in a more wealthy residential section.

TABLE I

DISTRIBUTION OF SCORES OF 504 FIRST-GRADE CHILDREN IN SIX SCHOOLS

| Score | School A | School B | School C | School D | School E | School F | Total |
|---|---|---|---|---|---|---|---|
| 5 | 0 | 1 | 5 | 0 | 0 | 1 | 7 |
| 6 | 0 | 4 | 5 | 2 | 0 | 2 | 13 |
| 7 | 0 | 6 | 7 | 0 | 1 | 3 | 17 |
| 8 | 0 | 1 | 6 | 4 | 1 | 0 | 12 |
| 9 | 0 | 3 | 5 | 2 | 0 | 1 | 11 |
| 10 | 0 | 1 | 1 | 2 | 0 | 1 | 5 |
| 11 | 0 | 2 | 5 | 1 | 1 | 1 | 10 |
| 12 | 1 | 2 | 8 | 0 | 0 | 2 | 13 |
| 13 | 2 | 5 | 3 | 2 | 1 | 1 | 14 |
| 14 | 0 | 4 | 6 | 0 | 2 | 2 | 14 |
| 15 | 2 | 8 | 4 | 0 | 1 | 4 | 19 |
| 16 | 1 | 9 | 8 | 7 | 4 | 3 | 32 |
| 17 | 11 | 15 | 6 | 5 | 12 | 15 | 64 |
| 18 | 8 | 9 | 13 | 8 | 20 | 25 | 83 |
| 19 | 10 | 13 | 22 | 13 | 22 | 28 | 108 |
| 20 | 13 | 8 | 13 | 22 | 10 | 16 | 82 |
| Total | 48 | 91 | 117 | 68 | 75 | 105 | 504 |
| Mean | 18.02 | 15.07 | 14.38 | 16.87 | 17.71 | 17.12 | 16.25 |
| Probable error of mean score | 0.19 | 0.30 | 0.31 | 0.33 | 0.18 | 0.22 | 0.12 |
| Standard deviation | 1.94 | 4.22 | 4.90 | 4.06 | 2.37 | 3.41 | 4.06 |
| Median | 18 | 16 | 16 | 19 | 18 | 18 | 18 |
| First quartile | 17 | 13 | 11 | 16 | 17 | 17 | 15 |
| Third quartile | 20 | 18 | 19 | 20 | 19 | 19 | 19 |
| Median age in months | 85.50 | 80.08 | 80.19 | 79.83 | 78.75 | 78.62 | 80.05 |
| Interquartile range in age | 7.67 | 7.67 | 8.73 | 9.00 | 7.94 | 7.55 | 7.85 |

The results of the test are presented in Table I. Sixteen per cent of the children had perfect scores; 38 per cent had nineteen or more responses correct; and 54 per cent had eighteen or more responses correct. Chance can by no means account for these results. The ungraded primary children had a mean score of 17.65, a median score of 18, and an interquartile range of 2. The pre-primary children had a mean score of 13.92 after correcting for chance. The mean score of the first-grade children after correcting for chance was 12.5.

There may be explanations for the low scores other than that the children did not know the correct responses.

Table II compares the scores in the two schools in which there was a language difficulty with the scores in the four schools in which there was no such difficulty. The respective mean scores are 14.68 and 17.36. While the third-quartile scores are the same, the first-quartile scores are 11 and 17, respectively.

Table III compares the scores in these two groups of schools in another way. This table shows the differences between the scores of Grades I B and I A. While there are marked differences between

TABLE II

COMPARISON OF MEASURES OF CENTRAL TENDENCY FOR TWO SCHOOLS—B AND C—IN WHICH THERE WAS A LANGUAGE DIFFICULTY AND FOUR SCHOOLS—A, D, E, AND F—IN WHICH THERE WAS NO LANGUAGE DIFFICULTY

| | Schools B and C | Schools A, D, E, and F | All Schools |
|---|---|---|---|
| Number of pupils | 208 | 296 | 504 |
| Mean score | 14.68 | 17.36 | 16.25 |
| Probable error of mean score | 0.22 | 0.12 | 0.12 |
| Standard deviation | 4.62 | 3.10 | 4.06 |
| Median score | 16 | 18 | 18 |
| First quartile | 11 | 17 | 15 |
| Third quartile | 19 | 19 | 19 |
| Median age in months | 80.14 | 80.00 | 80.05 |
| Interquartile range in age | 7.33 | 8.16 | 7.85 |

the scores of the two half-grades in both groups of schools, the differences in Schools B and C are significantly greater than the differences in Schools A, D, E, and F. The larger differences between Grades I B and I A in Schools B and C are certainly not to be explained on the ground that the children in Schools B and C learned within the half-year much more with regard to the correct responses to the test-elements than did the children in Schools A, D, E, and F. The differences are to be explained on the ground that the pupils' associations in school rapidly gave them the vocabulary with which to understand and express their relationships in life.

The differences between the scores for both sets of schools may be explained in part by the fact that the school experience gained between Grade I B and Grade I A increased the pupils' ability to

deal with a test of this type. This is especially clear when one considers that, of the 116 children with scores of 14 or less, 77.6 per cent were in Grade I B and 22.4 per cent were in Grade I A.

Eleven children in Grade I B, nine of whom were in Schools B and C, failed to understand the purpose of the test and selected the same colored card throughout.

Forty-four children selected the last response ten or more times. For these forty-four children the chance that a given test-element

TABLE III

COMPARISON OF THE DIFFERENCES BETWEEN THE SCORES OF GRADES I B AND I A IN TWO SCHOOLS—B AND C—AND FOUR SCHOOLS—A, D, E, AND F

| | Schools B and C | | | Schools A, D, E, and F | | |
|---|---|---|---|---|---|---|
| | Grade I B | Grade I A | Difference | Grade I B | Grade I A | Difference |
| Number of pupils | 102 | 106 | ..... | 139 | 157 | ..... |
| Mean score | 12.55 | 16.74 | 4.19 | 16.24 | 18.35 | 2.11 |
| Probable error of mean score | 0.30 | 0.25 | ..... | 0.22 | 0.10 | ..... |
| Standard deviation | 4.43 | 3.80 | ..... | 3.87 | 1.93 | ..... |
| Median score | 13 | 18 | 5 | 18 | 19 | 1 |
| First quartile | 8 | 16 | 8 | 15 | 18 | 3 |
| Third quartile | 16 | 19 | 3 | 19 | 20 | 1 |
| Median age in months | 77.36 | 83.36 | 6.00 | 75.50 | 81.83 | 6.33 |
| Interquartile range in age | 4.84 | 7.94 | ..... | 7.47 | 6.80 | ..... |

for which the first response was the correct one would be missed was 3.46 times as great as the chance that a test-element for which the last response was the correct one would be missed; the chance that a test-element for which the second response was the correct one would be missed was 3.39 times as great as the chance that a test-element for which the last response was the correct one would be missed. If the number of times that test-elements were missed for which the third response was the correct one is considered as unity, the number of misses for each successive response when correct is 3.46, 3.39, and 1.0. The number of misses in the case of the 504 children is 1.48, 1.28, and 1.0.

Table IV shows the number of pupils who selected each of the three responses in the case of the ten odd-numbered stories. This table abbreviates the stories but gives the responses in full after the

words "ought to" in the formula. None of the responses except those for the nineteenth and twentieth stories imply their own moral values.

The number of pupils who selected the response representing the facts ranges from 461 for the sixteenth story to 295 for the ninth. The average is 409.6. The relative difficulty of the test-elements probably ought not to be determined by the number of pupils who selected the responses not representing the facts because many of the children with low scores made many more errors on the test-elements in which the first or second response represented the facts than on those in which the third response represented the facts. It would seem better to use the P.E. distance from the mean number of times the test-elements were missed as the measure of comparative difficulty after the number of errors for each test-element having the first response as the correct one is reduced by the ratio 1/1.48 and after the number of errors for each test-element having the second response as the correct one is reduced by the ratio 1/1.28. Even this is an arbitrary procedure, especially when it is applied to any one test-element, but it seems more fair in the long run. Under this method only the ninth story stands out as having any large degree of difficulty. This story stands at +5.8 P.E. Five stories, including the first, third, and thirteenth, presented in Table IV, fall between 1 and 2 P.E.; the other fourteen fall within 1 P.E. The easiest test-element, the sixteenth, falls at −1.39 P.E., and the next to the easiest, the thirteenth, shown in Table IV, at −1.13 P.E. The pupils who selected the two responses not representing the facts were generally distributed about half and half. In the case of the ninth story, however, 71 per cent of the pupils who selected the responses not representing the facts selected the first response.

The method of testing is a prodigious time-consumer. It offers some opportunity for mechanical errors to be made in depositing the cards. The child may either deposit no card or deposit more than one card. Two and six-tenths per cent of the errors were of this type.

Two substitute methods based on the same principle may be used, both of which the writer employed in his preliminary work.

## TABLE IV

NUMBER OF PUPILS WHO SELECTED EACH OF THE THREE RESPONSES FOR THE TEN ODD-NUMBERED STORIES

| Test Element | Response Representing the Facts | Responses Not Representing the Facts |
|---|---|---|
| 1. J, while alone, drew pictures on the school wall. The next morning the teacher asked J whether he did it. | | |
| *a*) Say, "Yes, Miss Rose, I did." | 430 | ..... |
| *b*) Say, "No, ma'am, I did not." | ..... | 40 |
| *c*) Cry and to say, "I don't think I did." | ..... | 32 |
| 3. M broke a bottle in the bathtub upstairs. M threw it out the window. Younger brother told mother while M was asleep that M had broken the bottle and had thrown it out the window. Mother later told M to pick up the pieces of glass and asked how the bottle happened to be broken. | | |
| *a*) Say nothing to his mother and not to pick up the pieces of glass | ..... | 25 |
| *b*) Say that he did not know how the bottle was broken | ..... | 17 |
| *c*) Say that he dropped the bottle into the bathtub and broke it | 458 | ..... |
| 5. M and D were playing "Jump the Rope." M missed while D was not looking. M went on jumping. D turned and asked M whether she had not missed yet. | | |
| *a*) Go on jumping and not to answer D | ..... | 37 |
| *b*) Say, "Yes, I missed, and I should have given the rope to you right then." | 417 | ..... |
| *c*) Say, "No, I haven't missed." | ..... | 48 |
| 7. D wanted to go outside. D promised mother not to get her feet wet. But D put her feet into some puddles of water. She was all alone when she did this. Mother asked her why she got her feet wet. | | |
| *a*) Say that a little playmate told her to put her feet in the water | ..... | 45 |
| *b*) Say that she did put her feet in the water, that she didn't know just why, but that she was sorry that she broke her promise | 414 | ..... |
| *c*) Say nothing and to cry | ..... | 45 |
| 9. Mother asked someone to go to the kitchen to turn out the light. A and M raced to get there first. A beat and so turned out the light. | | |
| *a*) Say that she did not care whether A did beat her | ..... | 146 |
| *b*) Say that she did not try to get there first | ..... | 58 |
| *c*) Say to A, "You beat me that time, but I will try to beat you next time." | 295 | ..... |
| 11. P had two big brothers and one little brother at home. His teacher asked him to bring his little brother to school. P did not want to do so. | | |
| *a*) Say that he did not have a little brother | ..... | 45 |
| *b*) Say that he would bring his little brother if his mother would let him come | 398 | ..... |
| *c*) Say that his brother was bigger than he was and would not come to school | ..... | 59 |

TABLE IV—*Continued*

| Test Element | Response Representing the Facts | Responses Not Representing the Facts |
|---|---|---|
| 13. A was rocking and doing nothing. Mother asked A to rock the baby. | | |
| *a*) Say, "Oh, I was just going outdoors to play. I never have any time of my own." | ..... | 22 |
| *b*) Go right on rocking in her chair and not to push the crib | ..... | 28 |
| *c*) Say, "Yes, mother, I am doing nothing." | 452 | ..... |
| 15. Yesterday R was whipped for coming home late to dinner from school. Today he came late again. He saw that his mother was angry. | | |
| *a*) Say, "Mother, I will never be late again," and to keep his promise | 398 | ..... |
| *b*) Act as if he did not see his mother and as if he had done nothing wrong | ..... | 51 |
| *c*) Begin to rub his neck and to say that he was sick | ..... | 54 |
| 17. F asked his little sister to get some pie for him. Sister said, "No, mama won't let me; you go." | | |
| *a*) Say, "That is right; mama doesn't want us to get the pie. We won't get any pie." | 390 | ..... |
| *b*) Say, "No, you go; mama won't care if you take the pie because you are little." | ..... | 36 |
| *c*) Say, "I don't care if mama won't let you; you go and get the pie. She won't see you." | ..... | 78 |
| 19. Mother was down town. A broke a board in the kitchen. Mother asked A how it happened to be broken. | | |
| *a*) Tell a lie to his mother | ..... | 45 |
| *b*) Tell the truth to his mother | 406 | ..... |
| *c*) Say nothing to his mother | ..... | 49 |

One method was to give each child one set of three colored kindergarten blocks. After each test-element was read, the choices of the children, indicated by means of the blocks, were recorded on a permanent form, and the children were given the same sets of blocks with which to indicate their choices in the case of the next test-element. This method may be used in classroom testing. The other method was to provide each child with a booklet of as many sheets as there were test-elements. Each sheet was numbered to correspond with a definite test-element. On each sheet three colored inch-squares were pasted about two inches apart. The child was told to mark the red square with his pencil if he thought the first response was the correct one, and so on. In future investigations of the judgments of non-reading children, the writer will undoubtedly experiment further with this device.

## CONCLUSIONS

The conclusions relative to the first purpose set forth in the first paragraph are as follows:

1. The vast majority of first-grade children accept the response which represents the facts as they are as the correct one. As it is obviously impossible that all the children had had the identical situations arise in their lives, the figures in Table I mean still more. They mean that these children had by a process of induction arrived at the principle that telling the truth is the more proper response and that they were able to apply this principle to the situations and alternative responses.

2. First-grade children are as able to apply this principle as they are to recognize it as the one to be applied. This fact is indicated by a comparison of the scores for the first eighteen test-elements with the scores for the last two (Table IV).

3. Table IV further indicates that children are able to apply this principle with about equal skill to all the types of situations represented—those in which they are asked by parent, teacher, or playmate to account for a previous misdeed (Situations 1–8, 19–20), those in which they are beaten by another (Situations 9–10), those in which they would like to be relieved of having to perform an undesired act (Situations 11 and 13), those in which they seek to secure the possession or use of property (Situations 12, 16–18), and those in which they are restrained from performing a desired activity (Situations 14–15). The results in the case of the ninth situation indicate that some children think that saying that one does not care that one has been beaten is a better response to make to such a situation than admitting frankly that one is beaten but will try to beat next time.

4. Children of foreign-born parents may not be able to detect the correct responses to moral and social situations as readily as do the children of American-born parents, but one cannot conclude that all the children who made low scores did so because they did not know the correct responses. Certain features of the testing method may have kept them from adequately expressing their knowledge.

The conclusions relative to the second purpose of this article are as follows:

1. The vast majority of first-grade children can express their moral and social judgments by the designation of colors that are associated with the alternative responses.

2. The ability of first-grade children to express their judgments is hampered if a foreign language is spoken in the home.

3. This ability is probably increased in the case of some of the children by the school experience gained between Grades I B and I A, especially when a foreign language is spoken in the home.

4. Some children are confused by the necessity of keeping in mind three alternatives. The adequate expression of their judgments may be increased by decreasing the number of alternatives to two.

5. The method of testing used is not completely foolproof. Some children in six preliminary exercises do not get the idea of expressing their judgments by the designation of colors, especially when a foreign language is spoken in the home.

6. The particular device used for the children to designate their colors is a prodigious time-consumer. There is also too much opportunity for mechanical errors in designating choices and for errors in recording the children's choices in a permanent form. The method of testing needs improving in these respects.

# SUMMARY OF ARITHMETIC INVESTIGATIONS (1928). I

GUY THOMAS BUSWELL
University of Chicago

Since 1925 the writer has prepared an annual summary of the published investigations relating to arithmetic. These annual summaries supplement a monograph published in 1925 by the Department of Education, University of Chicago, entitled *Summary of Educational Investigations Relating to Arithmetic*. This monograph contains a bibliography and summary of 320 articles and books which report investigations of the methods and results of teaching arithmetic. The summaries published in 1926, 1927, and 1928 add 156 references. The present summary includes 56 references, making a total of 532. An effort has been made to select only those studies for the summaries which are either quantitative or critical in character. Purely opinionated discussions and reports of merely local interest are not included. However, where difference in judgment might exist, the writer has probably been too liberal rather than too strict in the application of the standard of selection.

## BIBLIOGRAPHY

1. ALMA, SISTER M.
"Methods in Arithmetic," *Catholic Educational Review*, XXVI (September and October, 1928), 395–403, 486–92.
A discussion of the development of vivid mental pictures in the teaching of arithmetic. No objective verification of the method.

2. ANSPAUGH, G. E. (Chairman of Committee on Curriculum), and PHIPPS, G. C. (Sub-Chairman, Arithmetic Study Grade VI A).
"Standards of Achievement for Sixth A Grade in Common and Decimal Fractions and in Number Combinations together with an Analysis of Errors Made in These Operations," *The Second Co-operative Report of the Studies of Curriculum and of Supervision*, pp. 54–93. Chicago Principals' Club Third Yearbook. Chicago: Chicago Principals' Club, 1928.
Presents and analyzes a large body of data on errors in the multiplication of fractions and of decimals, in the addition of fractions, and in simple addition and multiplication combinations. Also determines standards for Grade VI A.

3. BENZ, H. E.
"The Maintenance of Fundamental Arithmetical Skills in the Junior High School," *Mathematics Teacher*, XXI (October, 1928), 326–35.
Proposes a definite program of maintenance drill in the junior high school.

4. BOYCE, GEORGE A.
"Do Algebra Students Need Remedial Arithmetic?" *School Science and Mathematics*, XXVIII (December, 1928), 946–50.
Finds little relation between achievement in the fundamental skills of algebra and achievement in the fundamental skills of arithmetic.

5. BROWNELL, WILLIAM A.
*The Development of Children's Number Ideas in the Primary Grades.* Supplementary Educational Monographs, No. 35. Chicago: Department of Education, University of Chicago, 1928. Pp. xiv+242.
An elaborate investigation of the ways in which pupils in the primary grades acquire their first ideas of number combinations. Contains a valuable discussion of teaching arithmetic in the primary grades.

6. BRUECKNER, LEO J.
"A Technique for Analyzing the Distribution of Drill in Fractions," *Journal of Educational Method*, VII (May, 1928), 352–58.
An analysis of the drill provided by ten textbooks for different types of examples in the subtraction of fractions. Technique of analysis used is applicable to any textbook.

7. BRUECKNER, LEO J.
"Analysis of Errors in Fractions," *Elementary School Journal*, XXVIII (June, 1928), 760–70.
A detailed study of the types of errors found in the addition, subtraction, multiplication, and division of fractions by pupils in Grades V A, VI B, and VI A.

8. BRUECKNER, LEO J.
"Analysis of Difficulties in Decimals," *Elementary School Journal*, XXIX (September, 1928), 32–41.
A psychological analysis of errors made in decimals by three hundred pupils in Grades VI, VII, and VIII. Analysis based on written work of pupils.

9. BRUENE, ELIZABETH.
"Effect of the Summer Vacation on the Achievement of Pupils in the Fourth, Fifth and Sixth Grades," *Journal of Educational Research*, XVIII (November, 1928), 309–14.
Shows the effect of a summer vacation on achievement in the fundamentals and reasoning in arithmetic.

10. BUSWELL, GUY THOMAS.
"Summary of Arithmetic Investigations (1927)," *Elementary School Journal*, XXVIII (May and June, 1928), 702–9, 730–42.
A critical summary of fifty-two studies in arithmetic which were published during 1927.

11. CLAPP, ELSIE RIPLEY.
"Children's Mathematics," *Progressive Education*, V (April–May–June, 1928), 131–35.
A critical discussion of the course of study in arithmetic.

12. CLEMENS, PAUL B., and NEUBAUER, PAUL F.
"A Supervision Project in Multiplication," *Journal of Educational Research*, XVIII (December, 1928), 387–96.
A study of errors in simple multiplication which occurred in the work of two thousand children in Grades IV–VIII.

13. COIT, WILBUR ALDEN.
"A Preliminary Study of Mathematical Difficulties," *School Review*, XXXVI (September, 1928), 504–9.
Finds many difficulties in high-school algebra are due to failure to understand simple arithmetical processes. Period of remedial drill produced marked improvement.

14. DIVISION OF TESTS AND MEASUREMENTS, ST. LOUIS PUBLIC SCHOOLS.
"Methods of Subtraction," *Public School Messenger*, XXVI (September 1, 1928), 28–32. St. Louis, Missouri: St. Louis Public Schools.
Presents new data on methods of teaching subtraction. Results favor subtractive equal-additions method.

15. DURELL, FLETCHER.
"Solving Problems in Arithmetic," *School Science and Mathematics*, XXVIII (December, 1928), 925–35.
An analysis of problems according to types and according to processes. Sample problems given to illustrate the fifteen fundamental types.

16. EDAÑO, TIBURCIO.
"An Analysis of Arithmetic Textual Matter," *Philippine Public Schools*, I (February, 1928), 81–84.
Analyzes a series of arithmetic textbooks to determine the percentage of local and general problems included. Also shows frequency of use of fifty-four arithmetical terms in Grades III–VII.

17. FOWLKES, JOHN GUY.
"Improving the Computative Abilities of Pupils in Grades 1 to 8," *Fifth Annual Conference on Elementary Supervision Held at Indiana University* (April 19, 1928), pp. 34–37. Bulletin of the School of Education, Indiana University, Vol. V, No. 1. Bloomington, Indiana: Bureau of Coöperative Research, Indiana University, 1928.
A critical discussion of fundamental arithmetical abilities.

18. GARRISON, S. C., and HODGSON, JULIA.
"The Reliability and Validity of Certain Arithmetic Tests," *Peabody Journal of Education*, V (May, 1928), 339–41.
A statistical study of arithmetic tests.

19. GUILER, WALTER SCRIBNER.
"Current Tendencies in Course of Study Making in Arithmetic," *Educational Administration and Supervision*, XIV (January, 1928), 46–51.
A statement of the outstanding characteristics in so-called "best" courses of study in arithmetic.

20. HAMILTON, DWIGHT.
"An Experiment with an Individual Technique in Sixth Grade Arithmetic," *Journal of Educational Research*, XVIII (November, 1928), 339–44.
Presents data to show the value of individual instruction in arithmetic. Results particularly pertinent to rural schools.

*21. HYDLE, L. L., and CLAPP, FRANK L.
*Elements of Difficulty in the Interpretation of Concrete Problems in Arithmetic.* Bureau of Educational Research Bulletin Number 9. Madison, Wisconsin: University of Wisconsin, 1927. Pp. 84.
An elaborate study of eight elements of difficulty which affect the solution of arithmetic problems. Data drawn from 350,000 solutions of problems.

22. IRMINA, SISTER M.
*The Relative Merits of the Methods of Subtraction.* Catholic University of America Educational Research Bulletins, Vol. III, No. 9. Washington: Catholic Education Press, 1928. Pp. 30.
An excellent critical summary of the experimental data relating to methods of teaching subtraction. Finds greatest support for the subtractive equal-additions method.

*23. JUDD, CHARLES H.
"The Fallacy of Treating School Subjects as 'Tool Subjects,' " *Proceedings of the National Education Association*, LXV (1927), 249–52.
A vigorous attack on "the superficial studies of the curriculum which are trying to limit the study of mathematics to those problems in the solution of which people use some rule of combination."

24. KEENER, E. E. (Chairman).
"Test-Problems in Arithmetical Reasoning, Sixth Grade: A Co-operative Study by Twenty-four Principals," *The Second Co-operative Report of the Studies of Curriculum and of Supervision*, pp. 94–102. Chicago Principals' Club Third Yearbook. Chicago: Chicago Principals' Club, 1928.
Describes the construction of one hundred problems for sixth-grade pupils and their rating according to difficulty. The one hundred problems are presented.

* This reference came to the attention of the writer too late to be included in the summary for 1927.

25. KING, LEROY A.
"Diagnosis of Arithmetic Abilities—A Phase of Educational Measurements," *Educational Outlook*, II (January, 1928), 97–110.
A critical discussion of the use of fourteen arithmetic tests which "have the best justification for the claim of diagnostic value."

26. KNIGHT, F. B.
"Crucial Questions on Arithmetic Testing," *Chicago Schools Journal*, XI (September and October, 1928), 4–9, 46–48.
A critical discussion of the nature and use of arithmetic tests.

27. KNIGHT, F. B., and BEHRENS, MINNIE S.
*The Learning of the 100 Addition Combinations and the 100 Subtraction Combinations*. New York: Longmans, Green & Co., 1928. Pp. xiv+82.
A careful laboratory investigation to determine the relative difficulty of number combinations.

28. KRAUSE, ARTHUR K.
"Why Monroe Diagnostic Tests in Arithmetic?" *Contributions to Education*, Volume Two, pp. 15–17. Edited by J. Carleton Bell and Ambrose L. Suhrie. Yonkers-on-Hudson, New York: World Book Co., 1928.
Presents data on the use of a diagnostic test in arithmetic in Grades V and VI.

29. LANG, RUTH.
"The Causes of Success and Failure in the State-Wide Arithmetic Contest of 1925," *American Education*, XXXI (January, 1928), 178–82.
A study of the factors which condition success in arithmetic in fifty-five school systems. Data gathered by means of a questionnaire.

30. LIGDA, PAUL.
"The Systematic Solution of Arithmetic Problems," *School Science and Mathematics*, XXVIII (January and February, 1928), 24–33, 172–80.
A critical discussion of problem-solving in arithmetic.

31. MANUEL, H. T.
"Adding Up or Down: Another Consideration," *Journal of Educational Research*, XVII (April, 1928), 297–98.
A critical comment on Professor Buckingham's articles dealing with upward or downward addition.

32. MESERVE, HARRISON G.
"Mathematics One Hundred Years Ago," *Mathematics Teacher*, XXI (October, 1928), 336–43.
A historical study of some early textbooks in mathematics.

33. MYERS, GARRY C.
"The Price of Speed Pressure in the Learning of Number," *Educational Research Bulletin* (Ohio State University), VII (September 19, 1928), 265–68.
A study of the results of speed drills in arithmetic.

34. MYERS, GARRY C., and MYERS, CAROLINE E.
"Finding Mistakes versus Correct Associations in Simple Number-Learning," *Journal of Educational Research*, XVIII (June, 1928), 25–31.
An experimental study of two methods of teaching arithmetic.

35. MYERS, GARRY C., and MYERS, CAROLINE E.
"The Cost of Quick Shifting in Number Learning," *Educational Research Bulletin* (Ohio State University), VII (October 31, 1928), 327–34.
An experimental study of the results of mixing and not mixing the four fundamental processes in arithmetic examples.

36. MYERS, G. W.
"The Threefold Objective of Drill in Arithmetic," *School Science and Mathematics*, XXVIII (March, 1928), 281–89.
A discussion of drill for assimilation, skill-building, and skill-holding.

37. MYERS, G. W.
"The Minus Sign in Vertical Subtraction in Arithmetic," *School Science and Mathematics*, XXVIII (June, 1928), 627–33.
A discussion of the "alleged" confusion caused by the difference in use of the minus sign in arithmetic and in algebra.

38. NEAL, ELMA A., and FOSTER, INEZ.
"An Experiment with Remedial Work in Common Fractions," *Elementary School Journal*, XXIX (December, 1928), 280–83.
Finds organized practice material, with provision for diagnostic and remedial work, more effective than is the practice material usually provided by teachers.

39. NELSON, M. J.
"How Much Time Is Required in the Fall for Pupils of the Elementary School To Reach Again the Spring Level of Achievement?" *Journal of Educational Research*, XVIII (November, 1928), 305–8.
Finds that pupils need from four to six weeks to regain spring level of achievement after summer vacation.

40. OBRIEN, F. P.
"Co-operative Experiment Pertaining to Instruction in Arithmetic," *American Education*, XXXI (February, 1928), 219–21.
An account of the use of tests for the purpose of improving instruction in arithmetic.

41. O'CONNOR, MARY ELIZABETH.
"Scale for Measuring Arithmetics," *Educational Review*, LXXV (April, 1928), 243–44.
Presents a score card for textbooks in arithmetic. No objective data given to support the standards suggested.

42. OTIS, ARTHUR S.
"The Visual Method of Solving Arithmetic Problems," *Mathematics Teacher*, XXI (December, 1928), 483–89.
Proposes and illustrates a new method of solving certain types of arithmetic problems.

43. OTTO, HENRY J.
"Remedial Instruction in Arithmetic," *Journal of the National Education Association*, XVII (March, 1928), 87–89. Reprinted from the *Elementary School Journal*, XXVIII (October, 1927), 124–33, and reported as No. 41 in *Summary of Arithmetic Investigations (1927)*.
An example of remedial methods applied in a small school system. Detailed data on individual cases given.

44. POWER, LEONARD (Chairman).
*Texas Diagnostic Arithmetic Test*, Series A for Grades V, VI and VII: Analysis and Results. Research Bulletin Number 3. Dallas, Texas: Leonard Power, chairman of Committee on Research, Section of Superintendence, Texas State Teachers Association, 1928. Pp. 52.
A report of the construction and application of a new arithmetic test.

*45. REBARKER, HERBERT.
*A Study of the Simple Integral Processes of Arithmetic*. George Peabody College for Teachers Contributions to Education, Number Twenty-six. Nashville, Tennessee: George Peabody College for Teachers, 1926. Pp. 90.
An elaborate study of the fundamental combinations in arithmetic. An important contribution.

46. REEVE, W. D.
"Curriculum Problems in Junior High-School Mathematics," *Texas Mathematics Teachers' Bulletin, Vol. XII No. 2*, pp. 19–31. University of Texas Bulletin No. 2806. Austin, Texas: University of Texas, 1928.
A discussion of several considerations affecting curriculum construction in arithmetic.

47. REEVE, W. D.
"Educational Tests—To Standardize or Not To Standardize," *Mathematics Teacher*, XXI (November, 1928), 369–89.
Points out numerous values and shortcomings in standardized tests in mathematics. Part of article deals with higher mathematics.

48. SANDIFORD, PETER.
"Improvement in Special Subjects: The Acquirement of Skill in Arithmetic," *Educational Psychology*, pp. 364–85. New York: Longmans, Green & Co., 1928.
A brief summary of the psychology of arithmetic.

49. SANFORD, VERA.
"Extraneous Details," *Mathematics Teacher*, XXI (February, 1928), 83–91.
A stimulating discussion of the effect of extraneous details in problems. Points out difficulty resulting from local differences in knowledge of details presented in problems.

*This reference came to the attention of the writer too late to be included in the summary for 1927.

50. SHEERIN, ETHEL M.
"Application of the Dalton Plan to Teaching Arithmetic," *Contributions to Education*, Volume Two, pp. 18–22. Edited by J. Carleton Bell and Ambrose L. Suhrie. Yonkers-on-Hudson, New York: World Book Co., 1928.
Presents data showing the results of using the Dalton Plan in the teaching of arithmetic in Grades III, V, and VI in a city school.

51. TAYLOR, E. H.
"Arithmetic Teachers in the Making," *Proceedings of the National Education Association*, LXVI (1928), 850–59.
A study of the preparation of teachers of arithmetic based on curriculums from 187 teacher-training institutions.

52. VOORHEES, MARGARETTA.
"New Methods in Arithmetic," *Progressive Education*, V (April–May–June, 1928), 125–30.
A discussion of methods of teaching arithmetic in "progressive" schools.

53. WASHBURNE, CARLETON.
"When Should We Teach Arithmetic?—A Committee of Seven Investigation," *Elementary School Journal*, XXVIII (May, 1928), 659–65.
A co-operative investigation of the grade placement of various topics in arithmetic. A preliminary statement.

54. WASHBURNE, CARLETON, and MORPHETT, MABEL VOGEL.
"Unfamiliar Situations as a Difficulty in Solving Arithmetic Problems," *Journal of Educational Research*, XVIII (October, 1928), 220–24.
Data from tests of 441 children showing the effect of familiar and unfamiliar elements in arithmetic problems.

55. WASHBURNE, CARLETON, and VOGEL, MABEL.
"Are Any Number Combinations Inherently Difficult?" *Journal of Educational Research*, XVII (April, 1928), 235–55.
A study of the relative difficulty of number combinations. Seven specific factors affecting difficulty of number combinations are studied.

56. WILSON, G. M., and PARSONS, ALMA R.
"Why 100% Accuracy in the Fundamentals Has Not Been Secured in the Past," *American Education*, XXXII (December, 1928), 133–36.
An analysis of drill materials in arithmetic.

[*To be concluded*]

# A PUBLIC LIBRARY UNDER THE CONTROL OF THE BOARD OF EDUCATION

GLENN K. KELLY
Superintendent of Schools, Houghton, Michigan

Numerous arguments can be advanced for having the public library controlled by the board of education. This article deals chiefly with the outstanding features which make the public library of Houghton, Michigan, a valuable part of the public-school system. This library has been a part of the public-school system since it was established in 1914 and has served the community and school district with marked success. The outstanding feature of the library is that it renders exceptional service not only to the public but also to the schools of the district.

The fundamental policies for the successful extension of library service into the schools were well planned by the Board of Education and the superintendent of schools under whose administration the library was established. The school district consists of the village of Houghton, which has a population of 4,500 and is the county seat of Houghton County, two small outlying villages, and a large farming area. The school district contains 112 square miles and has a total population of 8,300. The two policies which make the operation of the library successful are the sending of "traveling libraries" to seven of the outlying schools and the granting of special library cards to all teachers. These cards entitle the teachers to draw simultaneously any reasonable number of books from the library to be kept for a reasonable length of time for school use. The number of books drawn and the length of time they are kept vary greatly according to the nature of the books, the supply of the various books, and the demand for the books.

## TEACHERS' SPECIAL LIBRARY CARDS

With the establishment of a junior high school in 1924, it became apparent that large numbers of adolescent children were not doing

sufficient and proper reading and that many were not sufficiently acquainted with the public library. Furthermore, the enriched courses offered in the junior high school made it necessary that the pupils familiarize themselves with a greater variety of literature. It seemed like unnecessary duplication to equip the high-school library with material already supplied by the school district in the public library. As the sending of large numbers of pupils from twelve to sixteen years of age to the library during school hours created disciplinary and administrative problems, advantage was taken of the policy of allowing teachers to withdraw large numbers of books on their special library cards. Teachers were urged to make their literature

TABLE I

CIRCULATION OF BOOKS DURING 1925–26, 1926–27, AND 1927–28

| Library Year | Elementary-School and Junior High School Pupils | Rural Schools | All Teachers and Pupils | Total, Including Adult Public |
|---|---|---|---|---|
| 1925–26..... | 12,427 | 2,485 | * | 39,312 |
| 1926–27..... | 15,335 | 3,592 | * | 42,440 |
| 1927–28..... | 18,975 | 4,990 | 35,876 | 49,779† |

* No separate record was kept. † Total volumes in library, 13,683.

courses largely courses in directed reading of a great variety of books placed on convenient shelves and on tables in the classrooms. Courses in directed and free reading and in the use of the library, supplementing the regular English courses, have been added to the junior high school course of study. All teachers in Grades I–XII are encouraged and urged to keep their rooms well supplied with attractive library books, which the children may read under proper conditions and may take home with them at night.

The results have been gratifying. Pupils not inclined to read have developed tastes for reading. Many pupils have shown improvement in their choice of books. The number of books drawn directly from the library by pupils has shown a marked increase during the past three years (Table I).

### TRAVELING LIBRARIES

The policy of sending traveling libraries to various outlying schools offers opportunities to the children and adults in the remote

rural sections practically equal to the opportunities enjoyed by those who live near the library. The original plan was to send about one hundred books of a wide variety to each outlying school in the autumn and have them returned the following spring. The result was that a large number of the books were rendered unfit for further use because they were kept for long periods of time in homes where they were improperly handled. In 1925 the plan of sending ten books each month to each outlying school was tried. The saving in wear and tear on the books more than covered the postage required in mailing the books both ways. This year books are being sent by means of the school delivery and repair truck, which carries supplies weekly to all but two outlying schools.

It has been found necessary to increase the number of books supplied monthly from ten to as many as fifty, the number depending on the size of the school and the community and the success of the teacher in securing interest in greater use of the library. Among the books are included books for adults and for children of all ages. The teacher or principal of the rural school acts as librarian and sends a monthly report on the circulation of books to the public library. This report is included in the librarian's monthly report to the superintendent of schools. In one community the total circulation of thirty books in the two-room school of forty pupils amounted to 279 in one month.

Teachers in the outlying schools are encouraged to visit the library whenever they go to town in order to see what books are available and to discuss their problems with the librarian. The librarian also sends mimeographed lists of books and suggestions from time to time to the teachers in the rural schools. The librarian also visits the rural schools early in the autumn and once or twice later in the school year to discuss library problems and possibilities with the teachers. In addition to the ten or more books issued each month to the rural schools to serve the school and the public, the teachers may requisition special books from time to time to be issued to them on their special library cards.

The high-school library also serves as a branch of the public library. Special books are placed there from time to time to supplement those withdrawn from the public library by teachers for use in

their classrooms, reference books furnished by the school district, and books which are gifts to the high-school library.

In addition to books, stereopticon views are circulated monthly in all the schools of the district. The sets in circulation now include geographical and historical material. The supply of views is being gradually increased and broadened. Each room is equipped with a stereoscope.

### THE LIBRARIAN AS A SUPERVISOR

The present administration of the library policies was worked out with a librarian in charge who had had training and experience both as a librarian and as a teacher. Training and experience as a teacher in addition to library training are valuable assets to the librarian in charge of a library conducted as is the Houghton Public Library. Although the librarian is not formally recognized as a supervisor, the duties assigned to her give her practically that status. There are a number of reasons why the librarian should serve as supervisor of library work.

Teacher turnover is fairly large in the rural schools. Teachers new in the system in both the urban and the rural schools need to be familiarized with the opportunities offered for the use of the library in the classroom and in the local community. No one is better prepared to do this than is the librarian. The junior high school course offering work in the use of the library is taught and supervised in part by the librarian. Teachers feel that they have the privilege of going to the librarian for special help in the same way that they would seek aid from a special supervisor of music, reading, or physical education.

# ABILITY GROUPING IN THE FIRST GRADE

HUGH S. BONAR
Superintendent of Schools, Manitowoc, Wisconsin

Much has been claimed but little proved for the organization of first-grade classes according to the ability of the pupils as determined by certain tests and teachers' judgments. In an effort to prove, if possible, the value of homogeneous grouping, an experiment which is to continue for three years has been undertaken in Manitowoc, Wisconsin. The results for the first year, which are challenging to the claims of the past, may be presented at this time.

The purpose of the experiment is to determine the merits of homogeneous grouping of children, to meet the objections of teachers who generally prefer not to teach the slow groups, and to answer the criticisms of parents who contend that the practice is not democratic.

In the autumn of 1927 the experiment was begun in three of the elementary schools. Schools that have two or more first-grade classes were selected. The classes were organized for the purposes of the experiment after the schools had been open for six weeks in order that the judgments of the teachers might be used to supplement the results of the tests given to determine the ability of the children. It is admitted that no one test measures the intelligence of a child with accuracy.

The results of the Detroit First-Grade Intelligence Test given at the end of the second year of the kindergarten, the judgment of the kindergarten teacher, and the judgment of the first-grade teacher after working with the children for six weeks were used in classifying the children in each school. The Herring Revision of the Binet-Simon Test was given to the children individually by an expert examiner to check the results of the previous test and the teachers' judgments. This test verified the findings of the previous test and the teachers' judgments in practically every instance.

Class 1 was made up of the thirty-six children in one school who

had the highest records on the tests among the one hundred children reporting for first-grade work. Class 2 included one-half, or thirty, of the children reporting for first-grade work in a second school. Every other name was chosen from the list of children classified

TABLE I

SUMMARY OF DATA

| | Class 1 (Upper One-Third of Group) | Class 2 (One-Half of All Abilities) | Class 3 (Lower One-Half of Group) |
|---|---|---|---|
| Number of pupils | 36 | 30 | 30 |
| Attendance percentage | 92 | 90 | 91 |
| Highest I.Q. | 152 | 113 | 112 |
| Number of pupils with I.Q.'s of 100 or higher | 24 | 14 | 11 |
| Median I.Q. | 104 | 99 | 97.5 |
| Average I.Q. | 106.3 | 97.8 | 97.0 |
| Number of pupils with I.Q.'s below 90 | 4 | 5 | 3 |
| Gates Silent Reading Test: | | | |
| Median scores: | | | |
| Type 1 | 46.8 | 45 | 37 |
| Type 2 | 33.5 | 33 | 23 |
| Type 3 | 24.7 | 23 | 20 |
| Average scores: | | | |
| Type 1 | 34 | 27 | 19 |
| Type 2 | 23 | 20 | 11 |
| Type 3 | 21 | 18 | 15 |
| Pressey First Grade Attainment Scale in Reading: | | | |
| Median scores: | | | |
| Words | 25 | 25 | 24 |
| Sentences | 15 | 15 | 15 |
| Total | 40 | 40 | 40 |
| Haggerty Reading Examination, Sigma 1: | | | |
| Median scores: | | | |
| Words | 17 | 15 | 14 |
| Sentences | 6 | 8 | 7 |
| Total | 23 | 23 | 21 |
| Minneapolis Second Grade Reading Test: | | | |
| Median number right | 4 | 4 | 3 |
| Standard | 3 | 3 | 3 |
| Los Angeles Elementary Reading Test: | | | |
| Median score | 5 | 5 | 2 |
| Average score | 6.3 | 4.5 | 3.3 |
| Number of zero scores | 0 | 7 | 7 |

from the lowest to the highest on the basis of the results of the tests and the teachers' judgments. Class 3 was composed of the lower half of sixty children reporting for first-grade work in a third school. Table I shows that, even though Class 3 represented the lower half

of all the children reporting for first-grade work in the particular school, the average I.Q. was almost as high as that of the pupils in Class 2, which represented both accelerated and slow children. The difference, therefore, in the average accomplishment of the two classes should not be very great. The results of the three forms of the Gates Silent Reading Test showed much lower accomplishment in Class 3 as compared with Class 2 than the difference in the average I.Q.'s would warrant.

The three teachers chosen for the experiment were approximately equal in ability as indicated by their training and success in teaching. All had been in the school system for a number of years. The teachers constitute one variable, however, that can never be scientifically measured.

All three groups were carefully supervised by the reading supervisor, who directed the experiment. The same motivation, materials, and encouragements, according to ability levels, were used by all the teachers.

The median I.Q. of the pupils in Class 1 was 104; Class 2, 99; and Class 3, 97.5. Class 1 included twenty-four pupils with I.Q.'s of 100 or higher, the highest I.Q. being 152. Class 2 included fourteen pupils with I.Q.'s of 100 or higher; the highest I.Q. was 113. Class 3 included eleven pupils with I.Q.'s of 100 or higher; the highest I.Q. was 112.

The range in I.Q.'s in Class 1 seems great. If the I.Q.'s of two children at the top and of four children at the bottom are disregarded, the range is reduced one-half. The significant distribution in this class concerns twenty-three children whose I.Q.'s ranged from 98 to 118. The great extremes in this class are due to the fact that both the most wretched type of home and the very highest type were represented.

The average I.Q. for Class 3 is unusually high for the lower half of a group. The children were from homes in a new section of the city where the families are of the industrious middle class. It is well to note in contrast to Class 1 that eighteen pupils in Class 3 had I.Q.'s ranging from 78 to 98.

In May, 1928, the following achievement tests were given: Gates Silent Reading Test (Primary), Types 1, 2, and 3; Pressey

First Grade Attainment Scale in Reading; Haggerty Reading Examination, Sigma 1; Minneapolis Second Grade Reading Test; and the Los Angeles Elementary Reading Test. The results of all these tests showed no advantage in segregating ability groups and tended to prove heterogeneous grouping advantageous.

The attendance factor is a variable which should not be overlooked. The mixed group, which had the best attainment record, had the poorest average attendance, while the accelerated group had the best attendance. These facts are further evidence in favor of mixed first-grade classes. The attendance records showed the absences to be almost equally distributed among the brighter and duller pupils.

Other important factors in such a study are the nationality of the parents, their occupations, and the home environment of the pupils, including the interest of the homes in the school. This type of information was obtained through personal visits to the homes of all the children in the three classes. The data secured were studied carefully in arriving at the tentative conclusions.

## SIGNIFICANT FINDINGS

1. The results of the experiment during the first year showed no advantage in segregating either accelerated or slow groups.

2. There was evidence of greatest accomplishment in the mixed group, ability considered, as the data in Table I show.

3. The classification of children in the lower grades so that all abilities are represented eliminates the problem of teachers who object to teaching only slow pupils and prevents the criticism that homogeneous grouping is undemocratic.

# Educational Writings

## REVIEWS AND BOOK NOTES

*The rise and development of normal schools in Massachusetts.*—A recent book[1] on teacher-training institutions, with an introduction by William C. Bagley, is a valuable contribution to the field. The book deals largely with the development of normal schools in one state. Numerous evidences are cited to show that the decisions reached in Massachusetts relative to the development of the state normal schools influenced profoundly the establishment and the development of the normal schools in other states.

The author examined in great detail the legislative materials, educational publications, monographs, board reports, and editorials which contain information relative to the establishment and the development of the normal schools in Massachusetts. He enables the reader to evaluate the contributions of such educational pioneers as Horace Mann, Carter, Brooks, Gallaudet, and Everett. With the author the reader lives in imagination in the days when there was great opposition to the training of teachers for the public schools and listens to the arguments advanced by both the proponents and the opponents of the normal-school idea. The author enables the reader to realize keenly our great debt to Horace Mann and to several of his contemporaries.

The "low-water mark" of the Massachusetts school system was reached in 1827. Through general indifference and neglect, the common schools had become more and more inferior. Responsibility for the free schools had been shifted from the legislature to the towns, from the towns to the districts, and from the districts to individuals.

Speaking of teachers of the day, the directors of the American Institute of Instruction, which was founded in 1830, said:

> They are not seldom persons of such doubtful respectability and refinement of character that no one would think for a moment of holding them up as models to their pupils. In short, they know not *what* to teach, nor *how* to teach, nor in *what spirit* to teach, nor what is the nature of *those* they undertake to lead, what they are *themselves* who stand forward to lead them [p. 60].

A new era in the history of American education was marked by the act passed by the legislature of 1837 establishing a state board of education. The

[1] Vernon Lamar Mangun, *The American Normal School:* Its Rise and Development in Massachusetts. University Research Monographs, Number 3. Baltimore: Warwick & York, Inc., 1928. Pp. xvi+442. $3.50.

State Board of Education was given no legal powers over the schools of the state, but its first secretary, Horace Mann, exerted tremendous influence through his printed materials on education. More than four hundred pages of this material were presented to the legislature of 1838. Mann made a strong plea for the better preparation of teachers, and it was his privilege to communicate to the legislature the offer of ten thousand dollars by a private donor on condition that the state would appropriate a like amount for the education of teachers. The legislature met the condition, and the sum of twenty thousand dollars was placed with the State Board of Education for the preparation of teachers for the common schools. This was a most significant forward step.

The term "normal school" was adopted June 1, 1838; the name "state normal school" was adopted in 1845. The three young women who presented themselves for the entrance examinations at the normal school at Lexington on July 3, 1839, inaugurated a new day for the teachers of the United States. They were the first students in this country to register in a state school for the training of teachers.

The normal school at Barre was opened in September, 1839, and the school at Bridgewater in September, 1840. There was a great deal of editorial opposition to these institutions.

The author records in great detail, but always in most readable form, the vicissitudes of the early schools established for the training of teachers. He quotes voluminously from original sources to show the development of the normal-school idea, the opposition to the State Board of Education, and the contributions made by Horace Mann, Brooks, and other proponents. He indicates the sources of opposition to the preparation of teachers at state expense.

By 1842 "evidence of the success of the school had so accumulated" that the legislature made an appropriation for normal-school maintenance without the stimulus of private donations, and in 1845 the first appropriation for normal-school buildings in the United States was made. The first appropriation for buildings without an offer from private donors was made in 1852.

It is interesting to note that in 1845 the Boston Masters "issued a pamphlet full of ridicule of the normal schools and urging upon the legislature that it would be far better that the state should be trebly taxed to *prevent* rather than to tax the people to support the formation of a new set of teachers" (p. 224).

The school men and women of this country have recognized some of the educational contributions of Horace Mann, but one who reads this book cannot fail to be impressed with the tremendous debt which we owe to him. He was untiring in his efforts to establish and properly to maintain state institutions for the preparation of teachers; he was fearless in his statements; he met opposition frankly and forcibly. His reports to the State Board of Education and to the legislature are outstanding contributions.

Mangun divides his book into three parts: "A Brief Perspective of a Century of State Normal School Development in Massachusetts as Related to the

Evolution of a State Department of Education," "Period of Experiment and Historic Controversy," and "Administrative Aspects."

School men and women are indebted to Mangun for his contribution.

J. C. BROWN

NORTHERN ILLINOIS STATE TEACHERS COLLEGE

---

*The technique of testing intelligence.*—A new book[1] on mental tests "is intended to serve teachers, social workers, and students of psychology as a compact and rapid survey of the field of testing" (p. v). This it does in a surprisingly succinct yet thoroughgoing manner.

The first ninety-five pages of the book are devoted to chapters i and ii, "The Testing Movement" and "An Analysis of Personality." Here one finds a brief history of testing and a rapid review of innate equipment, acquired equipment, and directive equipment. Much of the discussion will undoubtedly be repetition to students who have had a first course in general psychology or educational psychology—for example, the sections "Physical Innate Equipment," "Psychological Innate Equipment," "Learned Reactions," and "The Learning Process" on pages 41–83, inclusive.

The next seventy-three pages comprise chapters iii–v, "Intelligence: What It Is and How It Is Measured," "Representative Individual Scales and Tests," and "Group Tests of Intelligence." This section is treated in the conventional manner. In it such topics as "How Intelligence Is Tested," "Qualities of a Good Scale," "Educational Measures of Intelligence," "Supplementary Scales of Intelligence," and "Representative Group Tests" are discussed.

Chapters vi and vii, "Achievement Tests and Scales" and "Testing Non-Intelligence Traits of Personality," cover 118 pages. The emphasis is on the technique of test and scale construction and representative tests and scales.

Chapters viii–x, "The Mental Defective," "The Neurotic," and "The Superior Child," cover sixty-three pages of text and give a clinical flavor to the book. While the discussion is somewhat sketchy, the authors cover the fundamental points by using the outline method, a characteristic of the entire book.

Another characteristic of the book is the common-sense point of view presented by the authors. They stress the importance of statistical methods but do not advocate extremes in the application of such methods. For example, they make the following statement. "There is a marked tendency today to plumb the total personality; and, while statistical treatment is desirable, trained judgment directed to specified items of personality value are deemed superior to a too mechanistic objectivity" (p. 32). In discussing the diagnostic value of educational tests, the authors point out that educational tests are not self-diagnostic. They say: "In order to ascertain the nature of the pedagogical

[1] Albert J. Levine and Louis Marks, *Testing Intelligence and Achievement.* New York: Macmillan Co., 1928. Pp. viii+400. $2.00.

malady revealed by the tests, the teacher must use the results as a starting-point from which to traverse the whole psychological labyrinth beyond" (p. 215). "Diagnosis has merely a pedagogical significance; it simply shows that the instruction is not taking effect" (p. 214). Remedial teaching must therefore be synonymous with reteaching. Another illustration of the authors' breadth of vision is to be found in the following sentences. "It matters very much whether we espouse the medical or the psychoanalytic view of psychopathy. But it is not necessary to make a choice. The truth lies somewhere between: body and mind are interdependent and react to each other in subtle ways—much too subtle to warrant dogmatic statements" (p. 337).

At the conclusion of each chapter are "Exercises for Self-Testing and Investigation" and a bibliography. The book ends with a multiple-choice test and a section entitled "Summary of Statistical Symbols, Terms, and Formulae in Educational Measurements."

The book reflects a broad acquaintance with the testing movement in Europe and America. Its story is clearly presented. Students, particularly those not specializing in psychology, will find it useful as a textbook.

F. DEAN MCCLUSKY

THE SCARBOROUGH SCHOOL
SCARBOROUGH-ON-HUDSON, NEW YORK

---

*Bringing measurement up to date.*—If the supply of books on tests is a symptom of the demand, the teachers in this country are in a healthy frame of mind. In any case, the long procession of general books on educational measurement moves on apace, leading one to wonder how soon production will overtake consumption. Though the teaching profession needs periodically to be brought up to date on the subject of tests and will welcome at any time a masterly account of the testing movement, it should not be forgotten that the profession needs also the further refinement of measuring instruments through the investigation of a multitude of baffling problems.

One[1] of the latest additions to the list of books on tests has been prepared by Professors Smith and Wright, of Indiana University. There are features of this book that justify it as a new member of the long series of similar books. The authors have sensed the close relation that exists between tests and the curriculum and have therefore stressed the connection between testing and curricular objectives. Lists of objectives in the various school subjects are systematically presented from chapter to chapter. The book, moreover, provides much material not found in any of the older treatises nor in many of the newer ones. This is especially true of the chapters dealing with industrial arts, commercial subjects, and physical education.

When the book is revised for reprinting, certain errors should receive at-

[1] Henry Lester Smith and Wendell William Wright, *Tests and Measurements*. Newark, New Jersey: Silver, Burdett & Co., 1928. Pp. vi+540+x. $3.00.

tention. Mr. Courtis should have his proper initials (p. 1); the date of publication of Ayres's *Laggards in Our Schools* should be corrected (p. 2); the first appearance of the Binet-Simon tests should be dated 1905 instead of 1908 (p. 3); and the lower limit of the true score mentioned on page 536 should be changed from 47.88 to 47.78. In errors of this type the Introduction is much the most unfortunate part of the book.

Notwithstanding the clarity that pervades the presentation as a whole, there are occasional lapses into expressions that are loose or ambiguous. One reads of "statements of principle" that are not "proved facts" (p. 4); of a "rectilinear line" representing a "normal distribution" (p. 19); of "dietetic feeding" (p. 5); of "spelling demons that are general with almost everyone" (p. 177); and, apropos of the existence of all things in some amount, one is informed that "the amount may be measured in quality or quantity or both" (p. 4). Careful editing should easily succeed in removing these blemishes.

The chief merits of the book are its treatment of objectives in relation to tests and the new material that it supplies.

FREDERICK S. BREED

---

*Problems in supervision.*—Ten years ago supervision was just beginning to receive attention in the educational world. One of the pioneer contributions on the subject was Nutt's book entitled *The Supervision of Instruction*, published in 1920. Since that time many valuable additions have been made to the field. One of the recent additions is a second book[1] by Professor Nutt, which gives more attention to the problems of the administrative organization of supervision.

The second chapter, "Ethics in Supervision," provides a distinct addition to the usual discussion of supervision. A full acceptance of the ethical codes by supervisor and teacher would be of inestimable value in supervisory relations, particularly if the point of view on objectives of supervision as set forth in chapter iii were accepted. Chapters iv–xi present concretely the findings of a study of present practice in supervisory administration in school systems of cities of various sizes grouped into five classifications according to population. Definite suggestions for the organization of supervision in the cities in each population group are made, and the principles that should govern the administrative organization of supervision are outlined. Chapters xiii–xvi present the third major problem of the book, namely, that of making classroom supervision effective. Again recourse has been had to definite data, obtained in this case through extensive experimentation to discover objective methods of supervision and check objectively improvement in teaching through supervision. A mass of valuable data is presented to illustrate the method and clarify the discussion.

Professor Nutt's first book is somewhat in the nature of a theoretical dis-

[1] Hubert Wilbur Nutt, *Current Problems in the Supervision of Instruction*. Richmond, Virginia: Johnson Publishing Co., 1928. Pp. xiv+538.

cussion of fundamental principles of supervision. This book maintains the same theory of principle, but the discussion is based largely on an analysis of data secured through a study of practice and through experimentation. Two possible weaknesses of the book are the complete absence of references to other sources or authorities and the limited number of cases used as the basis of analysis in the five groups of cities. The book represents a contribution to the field and may well be read by administrators, supervisors, and teachers.

NELSON L. BOSSING

UNIVERSITY OF OREGON

---

*English composition in teachers' colleges.*—A recent book[1] in the series of Teachers College Contributions to Education presents a detailed study of present problems and practices of teaching composition in sixty-eight of the eighty-four teachers' colleges in the United States for white persons. By various standard methods of inquiry, the author, Leon R. Meadows, secured his data. In chapter ii he presents the history of English composition; in chapter iii he summarizes the chief objectives of the subject; in chapter iv he presents the major difficulties in teaching the subject; and in chapters v, vi, and vii he explains the chief procedures of instruction. The three remaining chapters are devoted mainly to procedures in an ideal course.

The conclusions reached by Mr. Meadows are these: (1) The tendency to correlate composition with life is stronger today than at any other time in the history of teachers' colleges (p. 16). (2) The chief objective is teaching prospective teachers to be accurate and refined in the use of the mother-tongue (p. 20). (3) The greatest difficulty is the weakness in fundamentals shown by entering students, which is traced to inadequate training in the secondary schools (p. 24). (4) Textbooks are not slavishly followed; they are supplemented by many devices designed to secure individualization of instruction (pp. 34–35). (5) Seventy-two per cent of the teachers' colleges require non-credit English courses for deficient Freshmen although only a few of the institutions practice ability grouping (p. 48). (6) A large amount of theme-writing, an average of perhaps one theme a week per student, is the common practice (p. 57); in the case of such themes, a fair average of excellence for Freshmen in November is 6.8 on the Hudelson scale, which is .1 above the average for fourth-year high-school pupils in January (p. 60). Stenographic reports of typical lessons indicate that approximately 70 per cent of the talking in composition classes is done by the teachers (p. 64).

The fact is that Mr. Meadows' data and conclusions deal almost exclusively with Freshman composition. His monograph should be correspondingly named. The assumption of the author that he is treating composition in teach-

[1] Leon Renfroe Meadows, *A Study of the Teaching of English Composition in Teachers Colleges in the United States with a Suggested Course of Procedure.* Teachers College Contributions to Education, No. 311. New York: Teachers College, Columbia University, 1928. Pp. 96.

ers' colleges when in reality he is dealing only with the initial English course is indicative of a nation-wide error in both the philosophy and the practice of teaching English. The error is in thinking that a drill course for Freshmen, admittedly proper and desperately needed, is the main substance of teaching composition. On the contrary, the drill course in the fundamentals, needed especially for prospective teachers, is a very small part of the training in expression, whether so called or not, in every college. Composition, or "expression," as thoughtful teachers now name the training, is a part of every course in which the students express themselves in the mother-tongue. The reviewer hesitates to accept the author's conclusion that composition in common teaching practices is nearer than formerly to life-situations. The data presented do not warrant that conclusion. However, the reviewer rejoices to find in the place of climax among Mr. Meadows' recommended procedures the item "correlation" (p. 83). This is nothing less than the suggestion that language conscience, language control, and language proficiency be made constituent parts of the training in every classroom, in every course, and in all extra-curriculum activities.

R. L. LYMAN

---

*Certain factors in the sociability of elementary-school children.*—"Maladjustment," "character education," "training for citizenship," and "the social studies" are terms common in recent educational discussions and writings. They denote the stress on the objective of fitting individuals for happy and efficient participation in present-day society. The means of training for desirable social relationships are uncertain, for we are ignorant of the exact nature of sociability. As we do not know its nature and its constituents, we must base the curriculum and methodology for social training on opinion and guesswork. Psychologists are attempting to determine the nature and the constituents of sociability. The study made by Hsia[1] is a recent contribution in this direction.

Because of its qualitative nature, the problem required careful definition and delimitation. It was defined as a search for the factors that constitute sociability. The investigation was limited in two ways: (1) by considering a restricted number of possible factors and (2) by confining the study to some three hundred children in Grades V–VIII, inclusive.

Standardized tests were given to measure the possible factors of general intelligence, reading ability, and socio-economic status. The pupils answered a questionnaire regarding other factors inherent in their individual social opportunities and attitudes. In order to measure the factor of information and attitudes, the author devised a sociability test to obtain the children's judgments with regard to preferable behavior in various social situations. These factors were then correlated with actual status in sociability (sociability score) as determined by the judgments of teachers and classmates.

[1] Jui-Ching Hsia, *A Study of the Sociability of Elementary School Children*. Teachers College Contributions to Education, No. 322. New York: Teachers College, Columbia University, 1928. Pp. 64.

None of the factors proved to be important enough to determine the presence or absence of sociability. The correlation of the chronological ages with the sociability scores was almost zero. The correlations of the sociability scores with intelligence, reading ability, and socio-economic status were positive but low. The sociability test seemed too easy for the older children but measured sociability rather well in Grades V and VI. The application of multiple correlation seemed to indicate that sociability results from the operation of a group of factors. The most sociable children ranked high in general intelligence, reading ability, socio-economic status, and knowledge of preferable social behavior, while the least sociable ranked low in the same factors.

The results of the study are inconclusive. Its value lies in its definition of a significant psychological and educational problem, the construction of a technique which may be further refined, and its suggestion of difficulties which another investigator may plan to avoid.

MILDRED A. DAWSON

---

*Methods of teaching in the elementary school.*—Another book[1] has been added to the long list of publications which deal with elementary-school methods. The author has previously published two books on the same general subject. In the textbook under consideration he attempts to provide a combined treatment of general and special methods at the elementary-school level.

Part I discusses certain general principles relating to physical conditions, psychological factors, discipline, individual differences, group methods, selection and arrangement of subject matter, drill, thinking, emotional life, projects, problems, study, and measurement. Part II is concerned with problems of special methods in reading, literature, history, geography, language, spelling, handwriting, arithmetic, health education, and creative expression. The general plan in Part II is to apply to the school subject under consideration the principles discussed in Part I.

The discussions presented in the various chapters consist primarily of rather dogmatic and unsubstantiated statements with virtually no references to the literature in the field of method. Possibly the scope of the topics dealt with is partly responsible for this type of treatment. The chapters on the school subjects are especially sketchy. The selection of the supplementary references listed at the ends of the chapters is open to question. For example, the chapter on reading includes no reference whatever to the work of Gates and Gray, while the chapter on handwriting does not refer to the investigations of Freeman. It is true that some of the textbooks cited include accounts of the work of these and other educational leaders, but this is a rather indirect method of familiarizing the student with the authorities and experimental evidence in the various fields.

What is the contribution of the book? A canvass of the literature in the

[1] Charles Elmer Holley, *Modern Principles and the Elementary Teacher's Technique*. New York: Century Co., 1928. Pp. x+432. $2.00.

field of method reveals at least four major types of treatment: (1) discussions of principles, theory, and philosophy; (2) descriptions, reproductions, and analyses of classroom lessons, materials, procedures, and devices; (3) reports of experiments and summaries of the experimental literature in the field; and (4) use of the technique of activity analysis in the formulation of lists of difficulties, problems, questions, and cases. Apparently it is not possible to classify the book under any one of these four headings, although it will probably be used in a number of the smaller teacher-training institutions as a first book in method and will possibly be used in reading circles.

CARTER V. GOOD

---

*The status of the social studies in teachers' colleges and normal schools.*—The content of courses in American public schools and colleges, particularly professional courses, is criticized for its incoherence, duplication, and waste. Ordinary observation and experience confirm such criticism. A recent investigation[1] carried on with the aid of a subvention from the Commonwealth Fund objectifies these charges and particularizes the conditions and practices with regard to teacher-training curriculums in the social studies.

The investigation was "principally restricted to a survey of the content and teaching in teachers' colleges and normal schools of that group of subjects called the social studies, including history, geography, civics (government), economics, and sociology" (p. 1). This survey was effected by analyzing catalogue statements of 710 teacher-training curriculums, analyzing questionnaire returns from three hundred instructors, and collecting evidence through personal visits to twenty-six selected institutions. The report centers about the following topics: general provisions for the social studies, the content and methods courses offered in the various institutions, special phases and problems of preparing teachers of the social studies, the status of these studies in public schools, and the relation of the professional preparation of teachers to instruction in the social studies in public schools under present conditions and under conditions that may develop.

The following statements are illustrative of the findings. Teacher-training institutions treat each branch of the social studies separately with considerable duplication of high-school courses. Prospective teachers do not master the subject matter that they will later teach because (1) the content courses are narrow, highly specialized sections of the fields of history, geography, etc.; (2) the courses are prescribed in terms of amount of credit, not content; (3) the students are left to haphazard election from specialized courses; (4) many professors are inexperienced in public-school work and disregard the courses of study which the prospective teachers must later follow. The teachers-in-training do not learn how to teach because (1) the courses are not professionalized; (2)

[1] Earle U. Rugg and Ned H. Dearborn, *The Social Studies in Teachers Colleges and Normal Schools*. Colorado Teachers College Education Series, No. 4. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. viii+162.

the students are supposed to learn most of the methods and psychology of teaching incidentally; (3) little is done to co-ordinate the theoretical treatment of subject matter and methods with the practical activities of teaching the social studies in the training schools and public schools.

The report is objective, specific, and well organized. The reliability of data secured by analyzing catalogue statements and the adequacy of data secured by personal visitation may be questioned. However, vital problems are raised, and conclusive evidence on disputed issues is presented. The study aims to stimulate thoroughgoing investigations that will determine the training in content and the techniques, appreciations, attitudes, and ideals actually needed by prospective teachers, and to guide in the scientific determination and organization of teacher-training curriculums. Teachers and administrators in public schools, arts colleges, and professional teacher-training institutions should give the report careful attention.

MILDRED A. DAWSON

---

*Rural education in Norway.*—A recent book,[1] which includes fourteen chapters and four appendixes, gives an interesting, connected description of the land, people, and educational system of Norway. Special attention is given to the evolution and present status of the rural schools. Many facts and statements of a comparative nature are presented for the student who is interested in comparing practices in the organization and administration of schools in the United States with those in Norway.

Chapter xiv under eight headings—"Fundamental Unity of Organization," "Position of the Rural Elementary School," "Attendance and Literacy," "Co-operation of Public and Private Educational Agencies," "The Dignity of the Teaching Profession," "The Curriculum," "Methods of Teaching," and "Finance"—summarizes briefly yet completely the pertinent materials included in the book.

Appendix A reproduces the daily program for the rural elementary schools of Norway. Appendix B shows the time schedule for the rural elementary schools of Norway. Appendix C is a summary of the cost of the educational system of Norway for 1923. Appendix D lists in twenty-one pages the educational literature of Norway. The literature, which includes books, pamphlets, and official publications on various topics, is grouped under seventeen headings. The names and addresses of forty-four publishers of educational literature are also included in Appendix D.

The bibliography, which forms the source material for the book, includes twenty-three official documents; forty-three books; eleven bulletins, pamphlets, and miscellaneous publications; and fourteen references to periodical literature.

The author points out that the various units in the educational system meet the needs of all the people; yet he admits that there is practically no provision

[1] Arne Sigurd Jensen, *The Rural Schools of Norway.* Boston: Stratford Co., 1928. Pp. 280. $2.50.

for the industrial training of the children of the 50 per cent of the country's industrial workers who are located in the rural sections. One of Norway's problems is to adjust the educational system so as to provide suitable training for the children of both the farmers and the workers in industry.

A reading of the book gives one the impression that the school system of Norway is an integral part of the social and economic life of the country. Any sense of complacency that teachers, supervisors, and administrators in the United States may possess as to the adequacy of our curriculum content, the integral position that our schools hold with other social institutions, or the high esteem in which our teaching profession is held is considerably jarred when a knowledge of the school systems of certain other countries influences their educational point of view.

J. W. TWENTE

UNIVERSITY OF KANSAS

---

*Mental hygiene.*—The end result of general education is admittedly a well-adjusted life, an integrated personality. Yet today speed seems to have become the measure of schoolroom progress—the child recites and studies by the stop watch. As one writer puts it, when the schoolroom is running at its "best" as approved by a supervisor, it is probably at its worst from the standpoint of mental hygiene. Modern education in its eagerness to stress intellectual development has been prone to forget that to the child a teacher's personality may be far more important in some respects than is anything she can consciously teach him.

With the purpose of stimulating teachers so that they may "more intelligently and successfully teach the *whole* child as distinct from the child as an intellectual reagent" (p. 336), Lawrence A. Averill has added another book[1] to his list of educational contributions. Though this work comes into a field already occupied by writings such as those of Burnham and La Rue, it differs from previous treatments of the subject in at least two respects: It deals with mental hygiene almost exclusively as it relates to the schoolroom situation, and it gives only the barest minimum of space to explanations of terms and to a discussion of the genesis of mental disorders. In other words, the author centers his main efforts on giving suggestions relative to not only those points of give-and-take in the schoolroom situation which are fraught with dire consequences as regards the wholesome development of childhood but also those points of contact of school children which have the greatest possibilities of insuring the capacities that make for the most adequate mental adjustment.

The book is written in the author's characteristically interesting style. It is replete with specific suggestions relative to the management of problem children, individualization of instruction, methods of instruction, etc. The sec-

[1] Lawrence Augustus Averill, *The Hygiene of Instruction:* A Study of the Mental Health of the School Child. Boston: Houghton Mifflin Co., 1928. Pp. xiv+386. $2.00.

tion discussing the significance of methods characterizing the teaching of the common school subjects is of special value and indicates that still further elaboration would be worth while.

Like many other writers, Averill gives decided prominence to the concept of instinct. There is danger, however, when the reader is told of "instinctive urges that are clamoring for expression" (pp. 188–89) and of a biological fear at the sight of an individual who is afraid (p. 95), that the nature of instinct and its manifestation may be misconceived.

That the point of view expressed in this book is in seeming accord with the contention of an earlier book by Burnham, namely, that the conditioned reflex affords a significant point of departure for mental hygiene, may be gathered from statements such as the following: "The healthful thing is for the learner to form reflexes of confidence, interest, determination, assurance" (p. 108). It is not to be doubted that the conditioned reflex explains much of human behavior, but a fact of still greater import that must be impressed upon the teaching body is that the highest level of an individual's organization comes not when he operates on the automatic, more or less unconscious, level of the conditioned reflex but when he has brought his actions to the point of voluntary control. The latter type of action is, after all, the distinguishing characteristic of the integrated personality.

Mental hygiene has a body of data that cannot be disregarded by the teaching profession. The book under discussion well sets forth the application of this material to the problem of schoolroom instruction.

HERBERT T. OLANDER

---

## CURRENT PUBLICATIONS RECEIVED

### GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

CHAPIN, F. STUART, assisted by O. MYKING MEHUS. *Extra-Curricular Activities at the University of Minnesota.* Minneapolis, Minnesota: University of Minnesota Press, 1929. Pp. x+140. $2.00.

COLVIN, STEPHEN S., and BAGLEY, WILLIAM C. *Human Behavior.* Revised by William C. Bagley with the co-operation of Marion E. Macdonald. New York: Macmillan Co., 1929. Pp. xii+334. $1.60.

CRAWFORD, CLAUDE C., and MCDONALD, LOIS P. *Modern Methods in Teaching Geography.* Boston: Houghton Mifflin Co., 1929. Pp. xii+306. $1.90.

DUDLEY, L. LELAND. *The Location of City School Plants.* Harvard Bulletins in Education, Number 14. Cambridge, Massachusetts: Harvard University Press, 1929. Pp. viii+130. $1.00.

HORN, JOHN LOUIS. *Principles of Elementary Education.* New York: Century Co., 1929. Pp. xii+394. $2.00.

JAGGER, J. HUBERT. *The Sentence Method of Teaching Reading.* London, England: Grant Educational Co., Ltd., 1929. Pp. 120.

KEENE, CHARLES H. *The Physical Welfare of the School Child.* Boston: Houghton Mifflin Co., 1929. Pp. xii+506. $2.40.

*Proceedings of the First Southern Conference on Education.* University of North Carolina Extension Bulletin, Vol. VIII, No. 6. Chapel Hill, North Carolina: University of North Carolina Press, 1928. Pp. 112.

VAN WAGENEN, M. J. *Comparative Pupil Achievement in Rural, Town, and City Schools.* Minneapolis, Minnesota: University of Minnesota Press, 1929. Pp. x+144. $1.50.

WHITEHEAD, A. N. *The Aims of Education and Other Essays.* New York: Macmillan Co., 1929. Pp. vi+248. $2.50.

WRIGHT, J. C., and ALLEN, CHARLES R. *Efficiency in Education.* New York: John Wiley & Sons, Inc., 1929. Pp. xvi+406. $3.00.

## BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

CODDINGTON, ELIZABETH C., and LONG, WILLIAM J. *Our Country:* A First Book of American History. Boston: Ginn & Co., 1929. Pp. viii+402. $1.08.

CONNISTON, RUTH MUZZY. *Chantons un peu:* A Collection of French Songs, with Games, Dances, and Costumes, Grammar Drill and Vocabulary. Garden City, New York: Doubleday, Doran & Co., Inc., 1929. Pp. xvi+148. $2.00.

CORDTS, ANNA DOROTHEA. *The New Path to Reading Primer.* Teachers' Edition. Boston: Ginn & Co., 1929. Pp. iv+172. $0.80.

HARDY, MARJORIE. *My Book:* Book One, for use with *The Little Book*, pp. 15, $0.12; Book Two, for use with *Wag and Puff*, pp. 39, $0.24; Book Three, for use with *Surprise Stories*, pp. 48, $0.16; Book Four, for use with *New Stories*, pp. 48, $0.16; Book Five, for use with *Best Stories*, pp. 64, $0.20. Chicago: Wheeler Publishing Co., 1929.

JOHNS, LINA M., and AVERILL, MAY. *Moths and Butterflies.* Dansville, New York: F. A. Owen Publishing Co., 1929. Pp. 128. $0.80.

MURRAY, CLARA. *The New Wide Awake Junior:* An Easy Primer. Boston: Little, Brown & Co., 1929. Pp. 112. $0.65.

PENNELL, MARY E., and CUSACK, ALICE M. *The Children's Own Readers: Pets*, $0.12; *Friends*—A Primer, pp. 146, $0.60; Book One, pp. 178, $0.68; Book Two, pp. 262, $0.72; Book Three, pp. 320, $0.80; Book Four, pp. 384, $0.84; Book Five, pp. 440, $0.88; Book Six, pp. 460, $0.92; The Teachers' Manual—First Grade, pp. xiv+424, $1.00. Boston: Ginn & Co., 1929.

ROBERTSON, M. S., and RUGG, L. S. *Primary Arithmetic Pad*, Number One. Boston: D. C. Heath & Co., 1928. $0.40.

THOMAS, LEAH C. *Body Mechanics and Health.* Boston: Houghton Mifflin Co., 1929 (revised). Pp. vi+210. $1.50.

THORNDIKE, EDWARD L., and WOHLFARTH, JULIA H. *Growth in Spelling:* Book One, for Grades Two to Four, pp. viii+120; Book Two, for Grades Five to

Eight, pp. vi+154. Yonkers-on-Hudson, New York: World Book Co., 1929.

TILLINGHAST, L. MORTON, and COLMAN, EDNA M. *Colonial Life in America.* Dansville, New York: F. A. Owen Publishing Co., 1928. Pp. 128. $0.72.

TRABUE, M. R., and STEVENS, B. A. *Trabue-Stevens Speller:* Primary, pp. 114+xxii; Intermediate, pp. 56+xxvi; Advanced, pp. 58+xxvi; Junior High Schools, pp. 86+xxvi. Evanston, Illinois: Row, Peterson & Co., 1929.

ULLMAN, B. L., and HENRY, NORMAN E. *New Elementary Latin.* New York: Macmillan Co., 1929. Pp. xxvi+448+42. $1.40.

## PUBLICATIONS OF THE UNITED STATES BUREAU OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

BROWN, EDWIN J. A Self-Rating Scale for Supervisors, Supervisory-Principals, and Helping-Teachers. Milwaukee, Wisconsin: Bruce Publishing Co., 1929.

BURTON, WILLIAM H., and BURTON, VIRGINIA N. Burton Civics Test. Yonkers-on-Hudson, New York: World Book Co., 1928.

ODELL, C. W. *A Critical Study of Measures of Achievement Relative to Capacity.* Bureau of Educational Research Bulletin No. 45. University of Illinois Bulletin, Vol. XXVI, No. 29. Urbana, Illinois: University of Illinois, 1929. Pp. 58. $0.50.

ODELL, C. W. *The Use of Scales for Rating Pupils' Answers to Thought Questions.* Bureau of Educational Research Bulletin No. 46. University of Illinois Bulletin, Vol. XXVI, No. 36. Urbana, Illinois: University of Illinois, 1929. Pp. 34. $0.50.

Recent issues of the Bureau of Education:

Bulletin No. 23, 1928—*Record of Current Educational Publications* (comprising publications received by the Bureau of Education October–December, 1927, with index for the year 1927).

Bulletin No. 28, 1928—*The Rural Junior High School.*

Taylor Music Test. New York: Schola Press (420 West 119th Street), 1928.